February 1961

Textile mill purchasing—1961

New section on wet processing

Cotton problem a union problem?

Knit pile fabrics at lower cost

Complete contents on page 4

Textile Industries

a W. R. C. Smith publication formerly "Cotton" fifty cents per copy

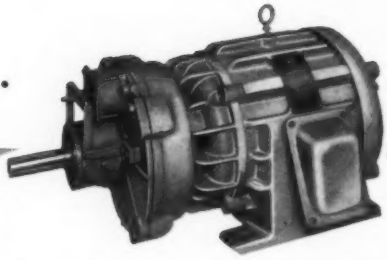
Textile-making magic didn't stop with Rumpelstiltskin . . .

Rumpelstiltskin's little trick was really easy. In the art of turning fibers into gold, *he* had no competition. But textile mills today must make a profit in the face of stiff competition. That's why so many of the modern money-makers in the field use the Whitin Model "P" Roving Frame.

Big factors in the magic of the Model "P"—fastest and most dependable of roving frames—are its clutch-brake power transmitter, *and the* DIEHL *experience behind it.*

DIEHL pioneered power transmitters for textile looms, has worked hand-in-hand with builders of textile machines for 75 years.

Take advantage of this long experience when you specify textile machines. On *any* kind of drive problem, contact DIEHL—a source of help that's just about as close to sorcery as you can find.



Whitin Model "P" Roving Frame—and its superior power transmitter, especially engineered and built by DIEHL. Automatically, in response to signals from its control unit, the DIEHL drive starts, positions, and stops the roving frame—combining high-speed operation with precise control during start-up acceleration.

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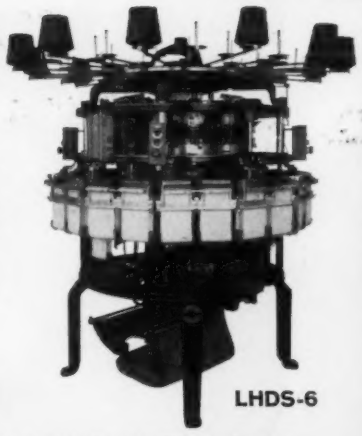
With the jacquard mechanism making the individual needle selections, an almost limitless variety of self designs, fancy stitch effects, color designs, plain and striped fabrics (with or without panels) are possible . . . *all* with knit on 1x1, 2x2 tubular or other rib cuffs.

Available in cuts from 3 to 12¾ needles per inch. Get complete details on this outstanding new machine . . . today!



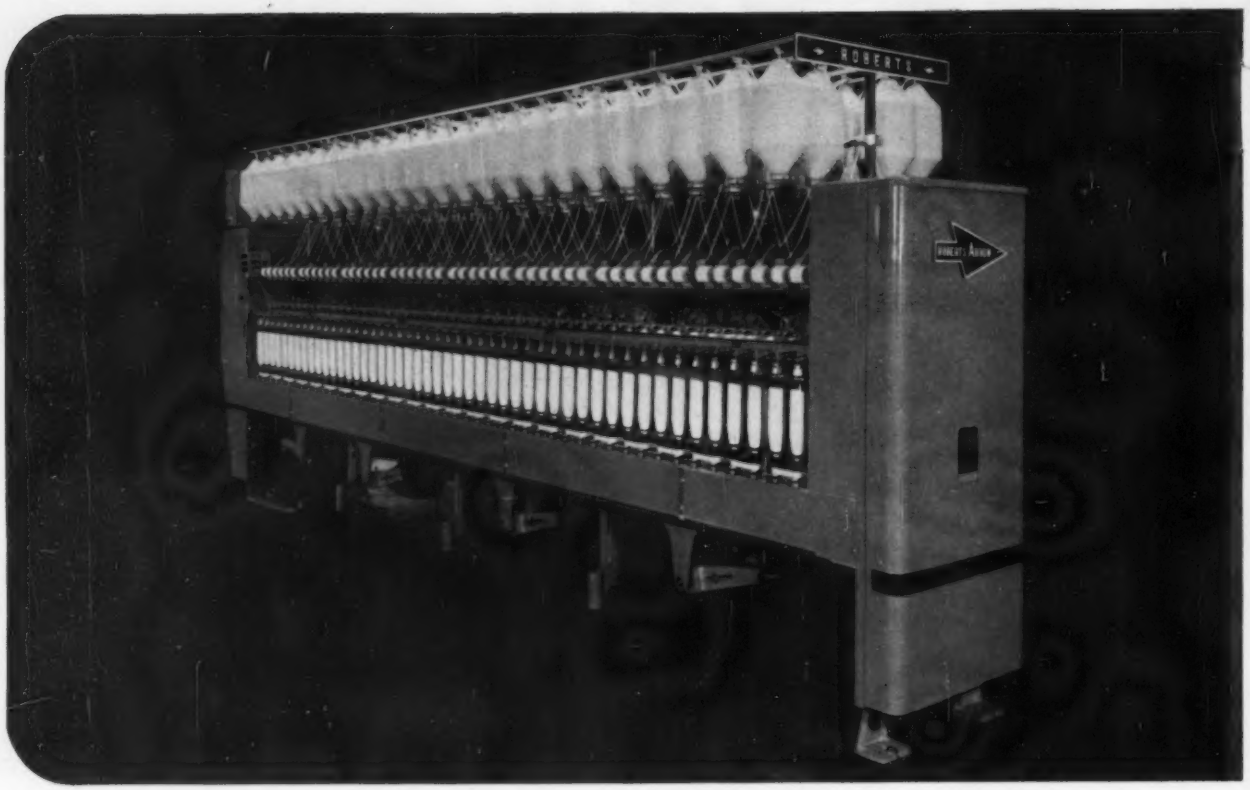
LHDS-6

WILDMAN JACQUARD

WILDMAN JACQUARD CO. • 1210 STANBRIDGE ST. • NORRISTOWN, PENNA. • MANUFACTURERS OF HEMPHILL BANNER KNITTING MACHINES

A subsidiary of Draper Corporation, Hopedale, Mass.

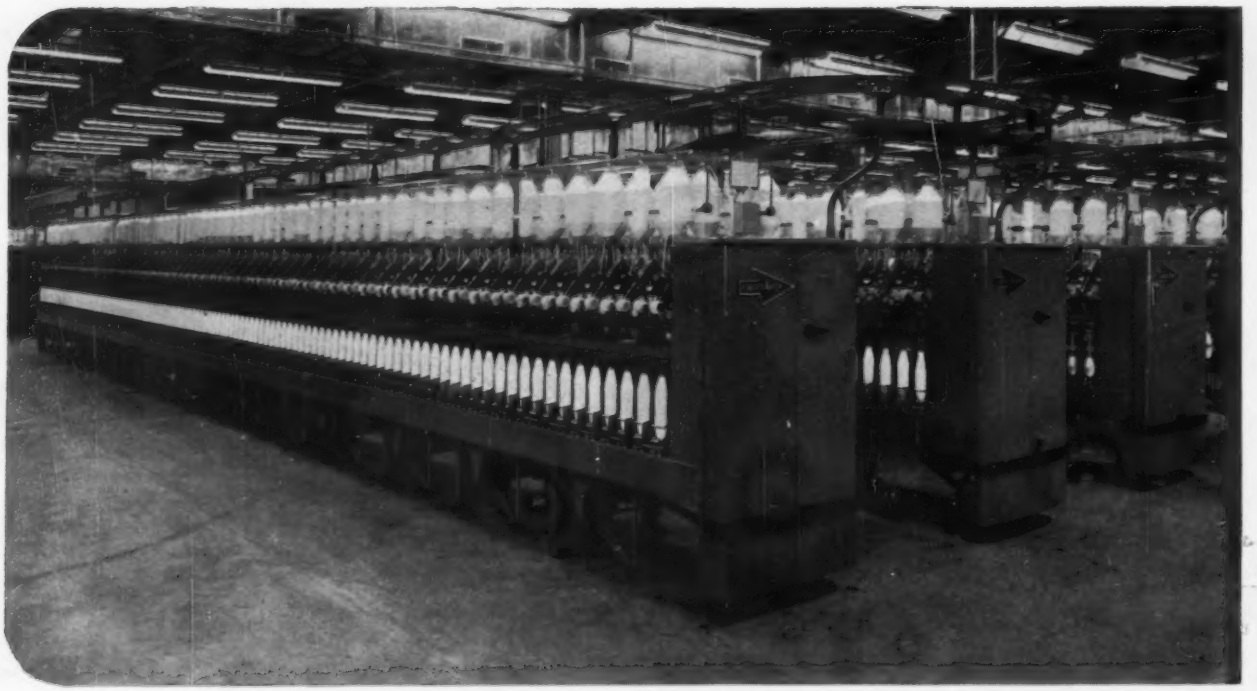
The only circular knitting machine using a true Jacquard patterning mechanism.



ARROW Model M-1 (above) for cotton system, Model WM-1 for worsted system. 25 inches wide.

ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.

ARROW Model WM-2 (below) for worsted system, Model M-2 for cotton system. 36 inches wide.

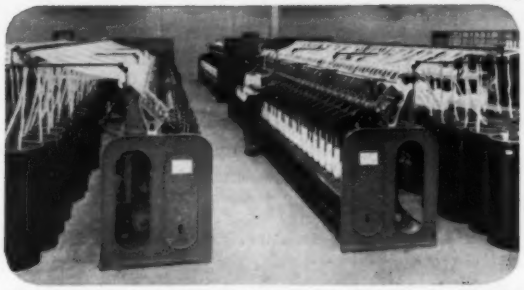


For further information use Handy Return Card, Page 175

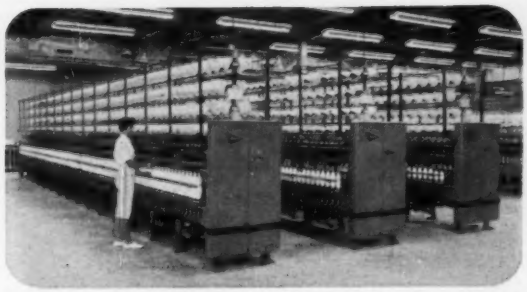
ROBERTS

Yarn Making Machinery

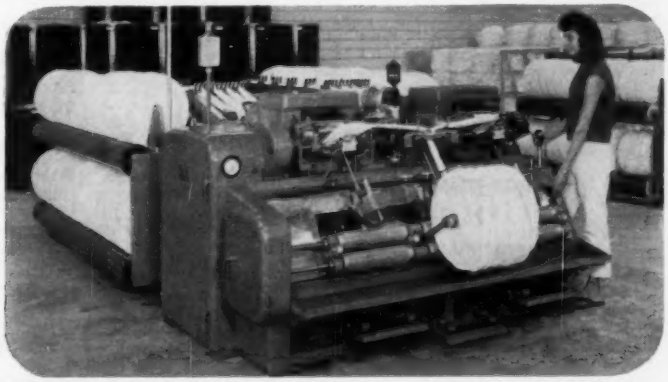
FOR COTTON, WORSTED, OR LONG FIBER SYSTEMS



ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.



ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 4-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.



ROBERTS-TEMATEX worsted system preparatory machines, including ParaBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.

Simplicity of design, rugged construction and high speed ball bearing operation are the hallmarks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization changeovers for mills' existing machinery.

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Textile Industries

The Textile Management and

SPECIAL PURCHASING FEATURE

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How American Thread Co.'s purchasing department contributes to company success.

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61 **The salesman looks at the dyer**
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Choosing the right roving can is important—a bad guess eats up profits by reducing efficiency and quality.

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94 How Burlington Industries supports higher education

100 1960 textile imports will set all-time record—ACMI

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Mill OK's the linkage-type parallel and the No. 14 shuttle check.

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Alabama mill men gave their opinions; they also discussed card and spinning room maintenance.

77 **Textured yarns behind the Iron Curtain**
Textile men from Western and Communist-bloc countries got together recently; both groups profited.

81 Make easy-care crepe on single-shuttle looms

121 Temporary remedy for hooked metallic clothing

121 Prevents yarn mixing at spoolers and warpers

February 1961
Volume 125
Number 2

Engineering Journal

◄ THIS MONTH'S COVER

This thread packaging machine is a result of cooperation between the purchasing office of American Thread Co. and other departments of the firm. In an article starting on page 55, E. R. Naugle, ATCO's general purchasing agent, tells how this cooperation increases mill efficiency.

WET PROCESSING

85 Cotton preparation: Quality vs production
Has the quality of cotton fabric preparation slipped?

87 Preventive maintenance for water?
Sounds like an off-beat idea, but at Rocky River Mills it helped improve yarn quality, cut chemical costs.

88 More colored sheet sales in '61
Mills using findings of Vat Dye Institute survey in merchandise planning.

90 Dryer ups output 45%
Change to radiant heat also cut floor space 85%.

98 Resin finishing cotton knits—Progress and problems
121 Suggests vacuum extracting for delicate fabrics
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111 Better pile fabrics at lower cost
That's the production aim at Glenoit Mills' Tarboro, N. C., plant.

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It can be done with a mill-made device that keeps the slack out of yarns.

98 Resin finishing cotton knits—Progress and problems
115 Continued expansion of ladies' seamless hosiery seen
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IN TI NEXT MONTH

Research pays off

■ Research and development at Narricot Corp. begins with a fabric of sound construction, designed for a particular purpose. Research has led this Philadelphia narrow fabrics manufacturer into new fields with woven fabrics, tapes, and webbings, designed and finished for specific uses.

TEXTILE INDUSTRIES for March will turn the spotlight on Narricot—how it organized for research, what its facilities are, and what the results have been.

That shuttleless loom

■ Crystal Springs Bleachery at Chickamauga, Ga., has been operating 90 Draper Shuttleless Looms for about four years. Next month we'll give the complete story of their findings—the first time that all the details of a mill's experience with the DSL will have appeared in print.

And . . .

■ Next month we begin a series of articles on Modern Textile Management, by Norbert L. Enrick; and of course there'll be a variety of articles, covering the industry.

For Micronaire testing . . .

IMPROVED...

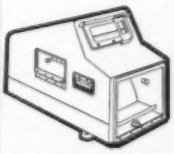
Faster-weighing, easier-reading SHADOGRAPH® Scales

A new optical system, developed by The Exact Weight Scale Company, provides the Shadograph with greater-than-ever visible accuracy. Its shadow-edge indication is sharper, easier to read, and contributes to faster operation.

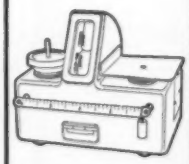
Model 4104-A, above, is specially designed for weighing samples in conjunction with the Sheffield Micronaire testing machine. Dial is graduated with 1 inch of indicator travel equal to 15 grains, over and under.

Extreme accuracy, plus greater speed and easy-to-read indication make Shadograph the choice of cotton shippers, brokers and mill operators both here and abroad. The Shadograph is another precision product of Exact Weight, leading manufacturer of job-engineered scales for more than 45 years.

Model 103 Exact Weight Scale for control of cone and spool weight.



Model 4142 Shadograph for determining yarn count number. Direct-reading eliminates use of conversion tables.



Shadographs are available for color control, slashing, sliver test, denier test and check-weighing operations.

WRITE FOR BULLETIN 3328

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SHORTS & REMNANTS

"Rayon" Copyrighted

We didn't know it until it was brought to our attention recently, but the National Retail Merchants Association owns a world-wide copyright on the term "rayon," which it acquired in 1924 as a name to replace "artificial silk" and "art silk," as synthetic fibers were then called. The name was chosen by a committee appointed by NRMA (it was the National Retail Dry Goods Association then), and was first suggested by committee member Kenneth Lord, of Galey & Lord, now part of Burlington Industries.

Mr. Lord felt that "rayon" suggested the sparkling rays of the sun, and meant it to describe the lustrous fabrics made from the relatively new fiber. According to "American Handbook of Synthetic Textiles," the change of name "probably was one of the mainsprings of the tremendous commercial expansion which followed."

Eric the Man

TI's editorial cartoonist, Lou Erickson ("Eric"), has been named Man of the Year by the Georgia State Chamber of Commerce. Eric does the spot cartoons in our News in Brief department each month, and illustrates an occasional feature article for us. He also draws cartoons for *The Atlanta Journal*, and has illustrated a number of books.

Better Mouse Trap

Two news releases which came in recently within a couple of days of each other were promoting ingenious new ways to get rid of rats and mice. The first described a trap with a built-in cheese odor, developed by an Indianapolis firm. We suppose

For further information use Handy Return Card, Page 175

Dress: Joseph Love
Sheer Fabric: Republic
Yarn: ENKA nylon, for stay-put crispness, stay-true colors

Stretch Stockings: Leath, McCarthy & Maynard
Yarn: ENKA nylon, for sheer and shapely hosiery

Girdle: Formfit
Yarn: ENKA Blanc de Blancs™ nylon, for whiter white foundations

Petticoats: Saramae
Tricot Fabric: Bangor
Yarn: ENKA nylon, for lovelier lingerie

Hose: Esquire Socks®
Yarn: ENKA nylon, for a smarter look, softer touch

Why so many good things begin with ENKA NYLON Yarns

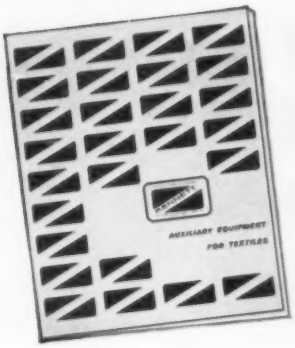
THE ANSWER is obvious—ENKA nylon is *made* to be versatile! How? First, Enka nylon has *greater absorbency*, makes nylon fashions comfortable to wear through sun-drenched summers, steam-heated winters.

Next, this amazing absorbency bequeaths our yarn a superior *affinity to dyes*. You'll find it responds beautifully to colors, keeps them sparkling and new through countless washings. White? Enka Blanc de Blancs™ nylon, created especially for the foundation market, has made possible the whitest of white nylon girdles with dazzling counter appeal.

Best of all, Enka nylon has *natural resilience*, makes it easy to knit and texturize or weave into a bevy of handsome fabrics. Enka nylon has wonderful shape-retaining qualities, too, so fashions created with it always fit smoothly, never sag.

These are just a few of the reasons why so many good things begin with Enka nylon yarns. If *you* haven't tried versatile Enka nylon yet—get on the bandwagon and try it NOW! Call Enka Merchandising in New York, 350 Fifth Avenue, PE 6-2300 or the District Sales Office nearest you.

American ENKA Corporation, Enka, N. C. • Producer of nylon • rayon • yarns • fibers
NEW YORK OFFICE: 350 Fifth Ave., New York 1, N. Y. • DISTRICT SALES OFFICES: Greensboro • Providence



THIS NEW MATERIALS HANDLING BOOKLET...

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the rugged Kennett trucks, cans and receptacles designed specifically for textile mill operations.

TELLS WHY...
an unusual combination of Vulcanized Fibre properties has made Kennett Receptacles the traditional choice of cost-minded textile men everywhere . . . Kennett equipment performs for years!

EXPLAINS HOW...
this versatile receptacle line improves materials handling efficiency . . . caters to costs.

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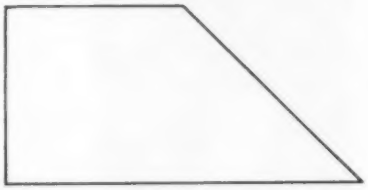
SHORTS & REMNANTS

(from page 6)

that rodents are beating paths to it. The second came from Cleveland, and reported on a new high-frequency sound device which is claimed to send rats fleeing in terror.

S & R's Puzzle Department

The puzzles that we've printed in the past issues have proved so popular that we're giving you another:



The problem is to divide the figure into four identical parts. Solution will be sent on request.

TI Rewritten

We hadn't heard a word from our old friend Joe Sliver in months, but as soon as our January issue was mailed we had a note from him, giving us a new caption for the front-cover photo:

"Good heavens! I never thought I'd find one of *these* in a bale of cotton!"

On Saying It Simply

Sifting through political speeches these days often makes for a real problem in understanding. It can serve to point up a problem many company executives might have, though, because apparently they aren't always as clearly understood by their employees as they would like to be.

According to *Hosiery News Letter*, Princeton's Opinion Research Corp. recently found that only 12% of the employees fully understand the av-

For further information use Handy Return Card, Page 175

The wide range of properties now available in Eastman's Epolene series provides greater flexibility in formulating polyethylene emulsions for softening "wash and wear" cottons and synthetics, and for textile lubricants and sizes.

Permanent, low in color, non-chlorine retentive and easy to prepare, emulsions based on Epolene polyethylene give you a practical and economical method for improving the hand, abrasion resistance and tear resistance of "wash and wear" treated fabrics.

With Epolene, you can prepare any kind of emulsion system, cationic, anionic or non-ionic, with solids contents of up to 40%.

Choose from three different low-molecular-weight resins to obtain the right emulsion properties and finishing characteristics for your equipment and service.

Epolene E is the highest-molecular-weight resin of the three. It produces stable, low-color emulsion systems of superior quality for use in softening cottons or synthetics, or as a lubricant to reduce needle-cutting and increase sewability. Like other Epolene resins, it needs no curing, lasts through repeated launderings and resists dirt pick-up and redeposition.

Epolene LVE, a new resin type, has a lower melt viscosity than has Epolene E, thus offering somewhat better handling characteristics. Epolene LVE is softer than other resins in the series. The stability of its emulsions in the presence of resin catalysts is outstanding, especially at the low end of the pH scale, as indicated by its relatively high HLB factor.

Epolene HDE is the first high-density, emulsifiable low-molecular-weight polyethylene on the market. Because it is much harder, it improves significantly the abrasion resistance and tear resistance in cotton and cotton blends. Its stability and permanence are excellent. It, too, offers easier handling characteristics during emulsion preparation because of its low melt viscosity.

If you are formulating polyethylene softeners and would like to produce stable, economical emulsion systems of superior all-'round characteristics, look to Epolene from Eastman. Let us introduce you, also, to new time-saving and cost-cutting emulsifying techniques developed at our textile laboratories. For more information on the formulating and performance advantages of these superior polyethylene resins or for specific formulating assistance, write your nearest Eastman office. We invite your inquiry.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York; Philadelphia; St. Louis. **West Coast: Wilson and Geo. Meyer & Company,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

Eastman now offers textile finishers 3 basic types of polyethylene

New EPOLENE resins enable textile chemists to formulate broader range of softeners

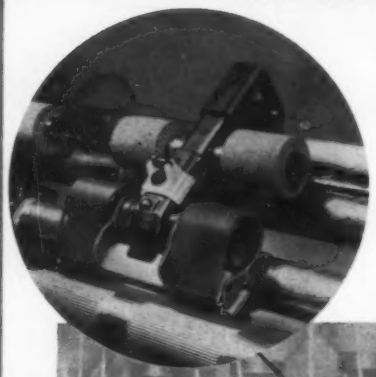
Property	Epolene E	Epolene LVE	Epolene HDE
Molecular Weight	2500	1500	1500
Density	0.938	0.939	0.956
Ring and Ball Softening Point, °C. (ASTM D-36-26)	104-108	104-105	110-111
Penetration Hardness (100 g./5 sec./77°F., tenths of mm.)	2	5	1
Color (liquid), Gardner scale, max.	2	2	2
Brookfield Viscosity (cps. @ 120°C.)	1500	400	455

Epolene

EASTMAN low-molecular-weight polyethylene resins

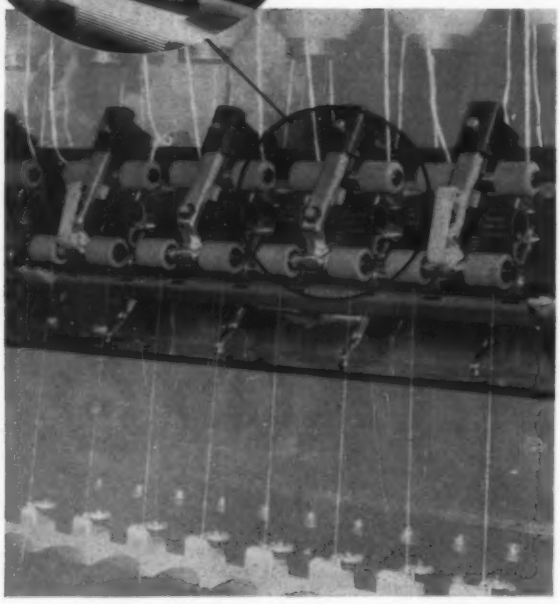
CleanGuide

PATENTS – PATENTS PENDING



SPINNING DRAFTING

Low Cost - Oil Free - Modern Unit for Maximum Drafting developed and proven on thousands of spindles over a period of several years.



Improves Yarn Quality through better apron control.

Operates Clean—Easy to install and remove.

Converts practically all types of Spinning to Double Apron Drafting.

Can be secured as complete Drafting on New Saco-Lowell Spinning with 60° Roll Stand, having friction or antifriction bearings.

No Cradle sides—allows air passage by Overhead Cleaners to move dry lint.

Supplied with Spring Weighting or for use with present dead weighting.

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Manufactured by Machinecraft, Inc.

Available through Saco-Lowell Shops *and their Agents.*

SHORTS & REMNANTS

(from page 8)

erage article written in the typical company publication. It seems that many words management uses either mean little to the employee or actually are distasteful to him. For a switch, the organization suggests these substitutions:

USE	INSTEAD OF
Company earnings	Company revenues
Sales tax	Excise tax
Efficient production	Productivity
Gov't ownership of business	Socialism
Incentive pay	Piece rate
Free enterprise	Capitalism
Strike	Work stoppage

Along the same lines, the steel industry felt that although many words and phrases may be understood by employees in speeches, radio or TV broadcasts, the same words, when written, would be too far removed from everyday usage for large numbers of steelworkers to understand. A few examples of changes steel management suggests for improved employee understanding are these:

SAY	INSTEAD OF
"do our best to serve our customers"	"meet reasonable requirements of business demands"
"lighten the penalty"	"modify the discipline"
"try to be fair"	"seek to demonstrate a cooperative attitude"
"go along with (or) move ahead"	"take affirmative action"
"with the idea of helping"	"with the objective of facilitating"
"not what they say they want to do"	"wholly inconsistent with their professed desire"
"no changes would be allowed unless"	"changes would be sanctioned only if"

Reprint Requests

"Printing by Hand and by Machine" (Sept. 1960)—**Rodney B. Graham, Jr.,** Printed Fabrics Corp., Carrollton, Ga.

"Tips for Learner Knitters" (Jan. 1959)—**Sidney Freshman,** plant supervisor, Murbeck Knitted Fabrics Co., Inc., Long Island City, N. Y.

"Trademarks of Man-Made Fibers" (Aug. 1960) — **Ed Ingle,** Franklin Process Co., Chattanooga, Tenn.

"Magog Standardizes Printing" (Jan.-Mar. 1959)—**Donald Moskowitz,** City Textile Printing Corp., NYC.

"Knitting Spare Parts for Human Bodies" (Dec. 1959)—**Arthur J. Gagnon, Jr.,** QC supervisor, Argonne Worsted Co., Manville, R.I.

Various articles on tufting—**Larry Washer,** pres., Vanetta Mills, Inc., NYC.

"Creaseproofing Agents for Wash-and-Wear Finishing" (Oct. 1959)—**Lorantz Bogan,** asst. res. dir., Fair-

For further information use Handy Return Card, Page 175

This Policy Is
GOOD INSURANCE

Clean and Rustproof Textile Equipment
The Absolutely Safe Way . . .

USE

IMMUNOL

REG. U.S. PAT. OFF.

Non-Flammable • Non-Toxic • Odorless Solvent

Safety Clauses . . .

1. IMMUNOL ELIMINATES THE FIRE HAZARD— is useable anywhere with absolute safety. Recommended by safety engineers, and insurance companies.

2. IT IS NON-TOXIC— toxic vapors and risk of dermatitis are eliminated.

3. SAFE FOR ALL TEXTILES— rinses off with plain water or can be left in—safely.

Other Immunol Benefits . . .

1. ECONOMICAL— dilutes 1 to 20 in any water, costs less than 13c a gallon of cleaning solution.

2. PREVENTS RUST AND CORROSION— saves equipment, eliminates use of costly oils and rust preventives.

3. ODORLESS— increases operator efficiency and eliminates complaints.

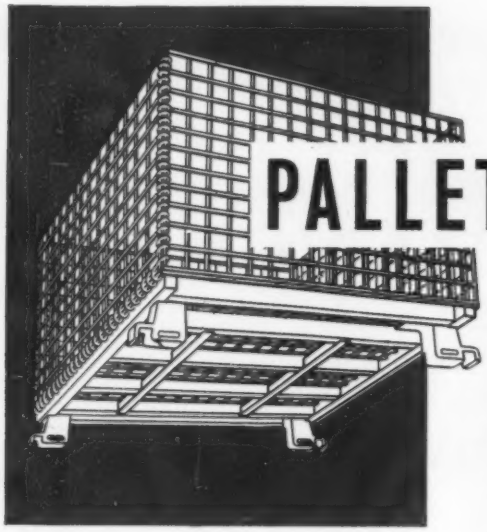
4. GIVES OUTSTANDING CLEANING AND SOLVENT ACTION
Cleans anything, fast—equipment, woodwork, plastic, glass and enameled surfaces. IMMUNOL washes off quickly and leaves no oily residue.

Check now on this safety-insuring, money-saving IMMUNOL "policy". Write, wire or call for a free sample of IMMUNOL and for the IMMUNOL Textile Bulletin.

HARRY MILLER CORP. HAMICO 4th & BRISTOL STREETS PHILADELPHIA 40, PA.

Manufacturers of:
• IMMUNOL • GLYCOLA • POTENTOL
• FIBREGARD • REVERSOL • ACTIVOL
• FIRMTAL

HARRY MILLER CORP.
Original Products and Processes Since 1936
4th and BRISTOL STREETS • PHILADELPHIA 40, PA. • DAvenport 4-4000
Service Representatives in Principal Cities



USP
PALLETAINERS®

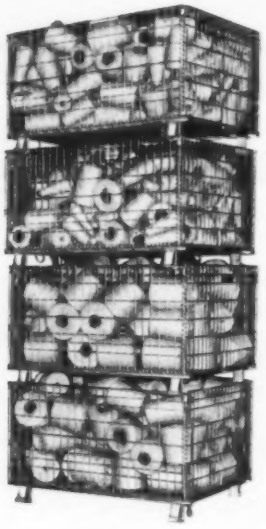
engineered containers for the..
TEXTILE INDUSTRY

USP Palletainers are readily available in a broad range of standardized sizes and types to meet practically every Textile Industry requirement or application.

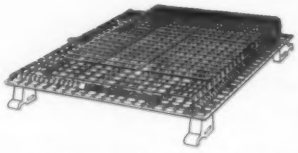
And, Textile Palletainers offer the obvious advantages of modern container, unit handling methods, the safety of sturdy steel wire mesh under standard or special protective finishes—plus the ease and simplicity of space-saving storage and rapid movement of unitized loads—more economically.

Already . . . Palletainers have revolutionized former handling methods for in-work storage of cones, spools, spindles, quiller bobins—even delicate yarns in processing phases.

Why wait? Simply phone, wire or write today and you can try Palletainers in your own plant—and see for yourself how they streamline processing, storage, interplant transport and shipment.



Textile Palletainers offer safer, higher stacking. Save more valuable floor space. Contents always visible.



Palletainers "Flat-Fold" features save storage space—lowers return freight costs.

Palletainers with gates offer complete content accessibility even when stacked. Stacking saves valuable floor space.

SPECIAL OFFER
Try any of USP Palletainers right in your own plant on a 30-day memo-billing basis. Your obligation is freight only.

USP UNION STEEL PRODUCTS CO.
Albion, Michigan

Delicate yarns in plastic covers in Palletainers may be stored indefinitely—always visible, accessible, safe and clean. A wide range of Palletainer snap-in liners are available.

(from page 10)

forest Finishing Plant, Spartanburg, S.C.

"A Year With the CK-A" (Jan. 1960)—**L. E. Rodney,** mgr., Bonda Textiles, Ltd., Yarmouth, N. S.

Index to TI for 1960—**J. R. Howard,** ind. engr. sup., J. P. Stevens & Co., Great Falls, S. C.; **N. C. Gryndahl,** div. mgr., spinning div., The Monarch Knitting Co. Ltd., Ajax, Ont.; **J. B. Henderson,** foreman, Coast Mfg. & Supply Co., Sequin, Texas; **Elmer S. MacNeill,** supt. wet proc., Coats & Clark, Inc., Toccoa, Ga.; **William Hornstein,** Majestic Mills, NYC; **William C. Reinhardt,** asst. overseer, Huntsville (Ala.) Mfg. Co.; **V. B. Holland,** res. dir., Cannon Mills Co., Kannapolis, N. C.; **Alex K. Ball, Jr.,** Klopman Mills, Asheboro, N. C.; **Katherine Glass,** tech. librarian, Callaway Mills Co., LaGrange, Ga.; **G. F. Phillips,** overseer, Pacific Columbia Mills, Inc., Columbia, S. C.; **W. N. Lilly,** res. & dev., Cone Mills Corp., Greensboro, N. C.; plus many other mill men, suppliers, librarians, the French Consulate in New York, textile students, consultants, and what have you. *We* have a few more copies of the index; drop us a line if you'd like to have one, or use the prepaid card on page 175. No charge.

More Textile Beards

Here are a few more prize specimens from our growing collection of textile beards:

J. H. Sheffield

O. W. Sheffield

J. L. Ray

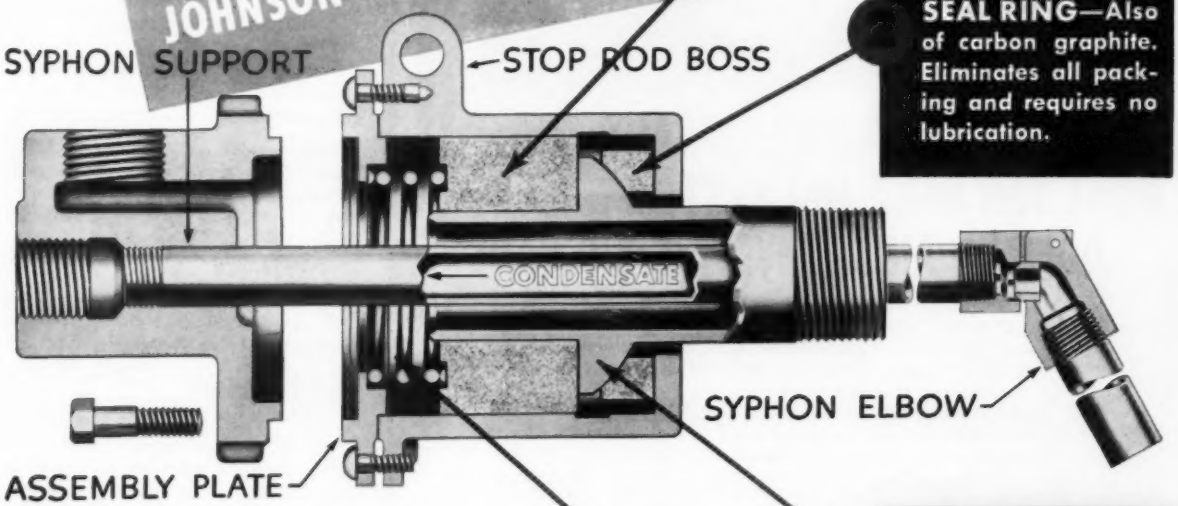
These gentlemen are overseers at the Tallapoosa, Ga., plant of American

For further information use Handy Return Card, Page 175

Only 4 INTERNAL PARTS

This is the one to use...
For 23" dia. Dry Cans

TYPE SB2-P
JOHNSON JOINT and JOHNSON SYPHON ELBOW



GUIDE—Makes the joint self-supporting. It is of self-lubricating, long-wearing carbon-graphite.

SEAL RING—Also of carbon graphite. Eliminates all packing and requires no lubrication.

NIPPLE—Rotates with the roll, and seals against the ring.

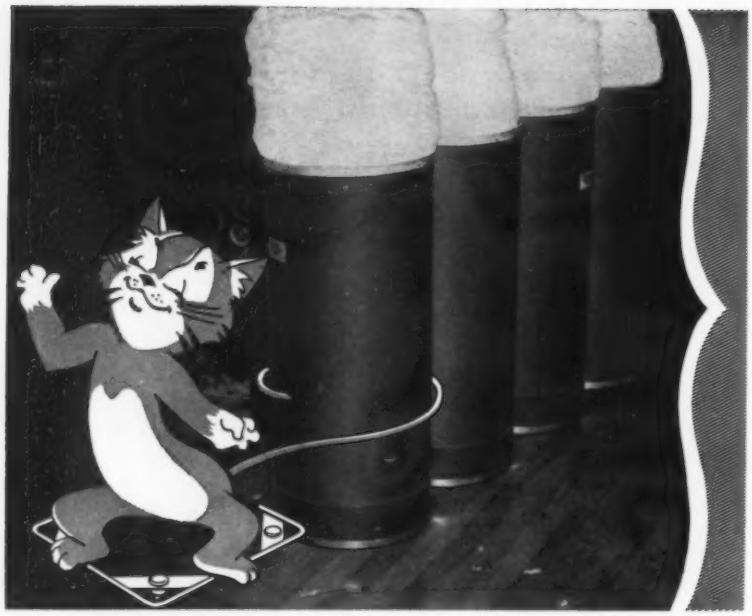
SPRING—Serves for initial seating only. In operation joint is pressure sealed.

Notice how straightforward and simple is the design of this Johnson Joint. This unmatched simplicity means fewer breeding places for trouble... simplifies overhaul and repair out in the field. At the same time the joint is completely packless, self-adjusting, self-lubricating and self-supporting.

In this Series 3000 Type SB2-P the assembly plate holds the internal parts in position when head is removed. This makes it a perfect teammate for the Johnson Syphon Elbow which can be inserted or withdrawn right through the joint.

Test it yourself—We'll gladly supply a pair of the units shown for 90 day trial right in your own mill; no obligation of course. Write for details and literature.

Products of The Johnson Corporation
815 WOOD ST., THREE RIVERS, MICH.
Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters



SOUTHERN STATES ALLEY-SKAT* SLIVER HANDLING SYSTEM SPEEDS DOFFING AND CONVEYING BIG CANS

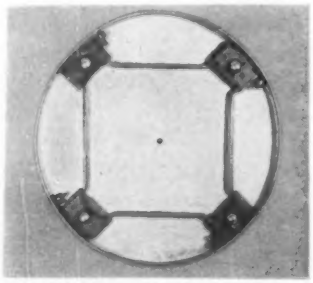
As mills convert to large diameter coilers—with cans weighing up to 12 times more than those of only a few years ago—doffing and moving heavier cans presents a problem. Yet it can be solved simply and economically with Southern States' exclusive ALLEY-SKAT system.

This unique system consists of a can dolly easily affixed to the bottom of any size can, a specially designed cantable, and latches to permit train-like movements of several cans by one man. The ALLEY-SKAT system can be used on cans 16 through 30 inches.

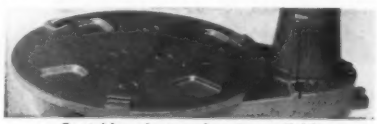
On new coilers, Southern States supplies the ALLEY-SKAT cantable at no additional cost. The only extra cost is for the ALLEY-SKAT dolly and latches for the system.

Get full information on this unique handling system from your Southern States representative or write for Bulletin 502.

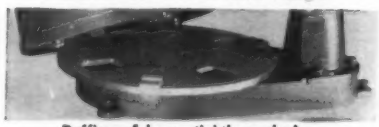
Patents 2,816,328; 2,823,924; 2,908,945; 2,916,780; 2,920,902; 2,936,496; 2,950,021. Others pending.



ALLEY-SKAT Dolly mounts to inside of can rim. Dollies are made of finest materials, including heavy-duty ball-type casters.



Cantable adapter plate is available as standard equipment on Southern States Coilers at no extra charge.



Doffing of large, tightly packed cans is quickly and easily accomplished. No lifting required.

*TRADEMARK

SOUTHERN STATES EQUIPMENT CORP.
HAMPTON, GEORGIA

SHORTS & REMNANTS

(from page 12)

Thread Co., and raised the beavers as part of Tallapoosa's centennial celebration. Incidentally, for details of some of American Thread's activities other than beard raising, see page 55 of this issue of TI.

Want TI Books

"We are interested in receiving copies of your 'Dyeing, Bleaching and Finishing Manual' . . ."

C. C. CLINKSCALES
Personnel Manager
Muscogee Mfg. Co.
Columbus, Ga.

". . . publication entitled 'My Private Secretary' . . ."

TEST LINE DEPT.
Pacolet No. 6
Gainesville, Ga.

"Please send us 20 copies of 'Loom Fixing Tips and Causes of Weaving Defects' . . ."

J. F. UNDERWOOD
Superintendent
Pickens Mill
Pickens, S. C.

". . . 50 copies of booklet 'The Supervisor and His Responsibilities' . . ."

PAISLEY BONEY
Purchasing Agent
J. P. Stevens & Co.
Greensboro, N. C.

". . . please send us 10 copies of your booklet '101 Ways to Weave Better Cloth' . . ."

C. T. REED
Plant Manager
Aragon Mills
Aragon, Ga.

"Please send us two copies of your 'Woolen & Worsted Manual' . . ."

CHARLES M. KENNEMORE
Pilot Plant
Hatch Mill
Columbus, N. C.

". . . Dr. Seydel's book on 'Warp Sizing' . . ."

J. J. MCGUIRE
Geo. C. Moore Co.
Westerly, R. I.

". . . 12 copies of 'Draper Loom Fixing' . . ."

J. L. GOLDSMITH
Overseer Weaving
Kendall Co.
Albertville, Ala.

All of these are available as premiums with subscriptions to TEXTILE INDUSTRIES. Write to our Circulation Department.

For further information use Handy Return Card, Page 175

PERSONAL NOTES

R. H. Welsh has been named vice-president of manufacturing for Ludlow Textile Products, a division of Ludlow Mfg. & Sales Co., Needham Heights, Mass. Mr. Welsh will be in charge of all domestic textile manufacturing operations, including mills at Ludlow, Mass., Edge Moor, Del., and Indianola, Miss.

Vincent R. McManus has assumed duties of quality control for Cranston Print Works Co., Cranston, R. I. Mr. McManus will work out of the New York office.

George Brandt, Jr., formerly superintendent of the Proximity Print Works plant of Cone Mills Corp., has accepted an executive position with Rock Hill Printing & Finishing Co.

J. L. Channell, vice-president in charge of production, has assumed the additional duties of general manager of the Opp and Micolas Cotton Mills, Opp, Ala., succeeding **L. D. Sayers,** who has become technical director and executive assistant.

At the annual meeting of the Narrow Fabrics Institute, held in New York recently, **John A. DeAngelis** of Murdock Webbing Co., was elected board chairman. Other officers elected were: president—**E. B. Laughlin** of Laughlin Textile Mills; vice-president—**Thomas R. Beecher** of Globe Woven Belting Co.; treasurer—**A. A. Kuhn** of Fiber Manufacturing Co.; secretary—**John Peffer** of Buffalo Weaving & Belting Co.

George P. McClenaghan, vice-president of J. P. Stevens & Co., Inc., has resigned his position as president of the South Carolina Textile Manufacturers Association. * * * **Frank Hornby, Jr.,** has been appointed manager of the insurance department succeeding the late C. Stanley Hamilton.

Stanley Backer, associate professor

Continued on page 37

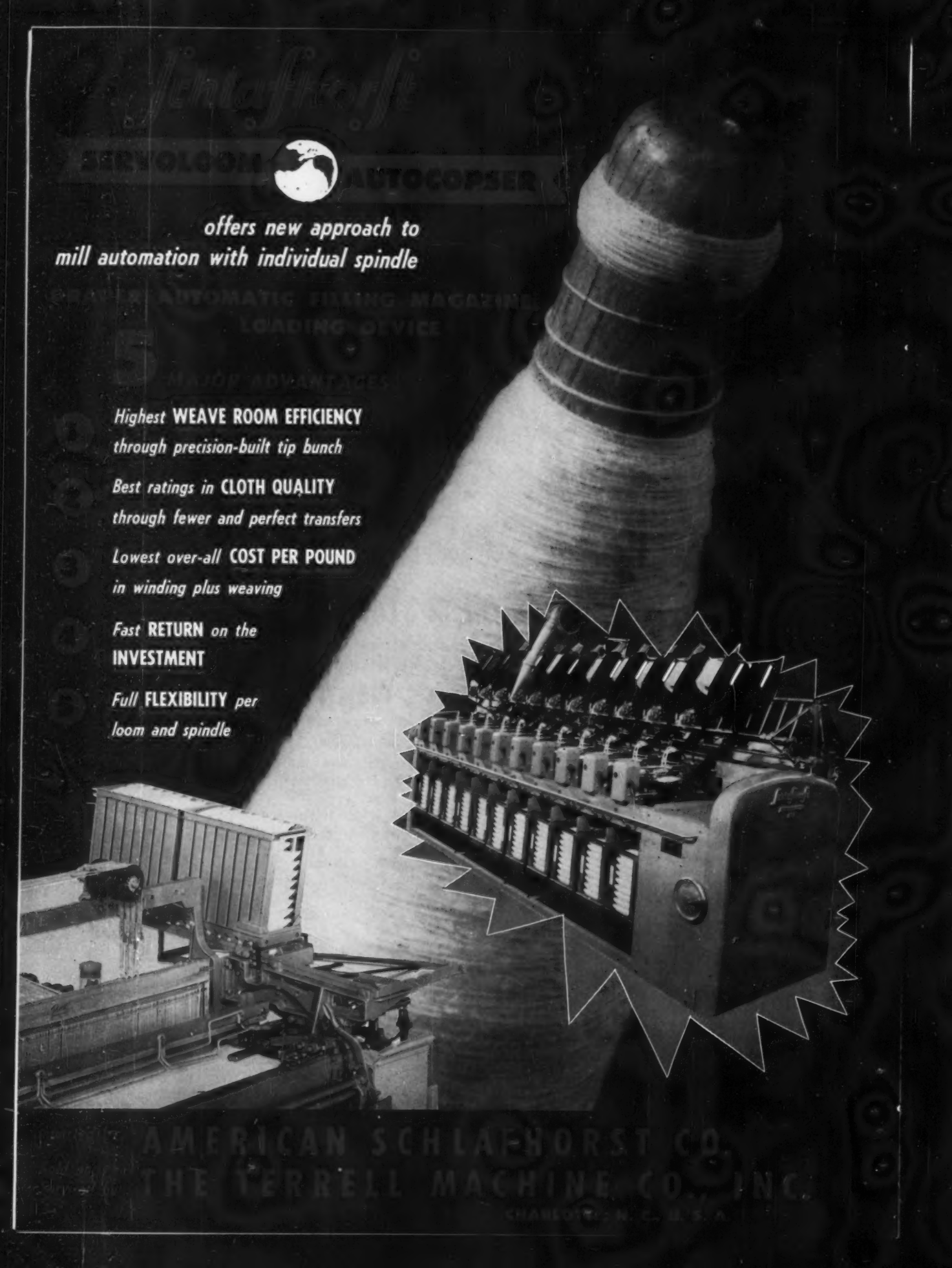
SOUTHERN STATES' NEW COILER LINE HAS ALL ENGINEERING AND DESIGN FEATURES WANTED BY MILL MEN

To provide mills with a premium-quality coiler, every engineering and design feature wanted by mill men has been included on the new Southern States Coilers.

A new center adapter (see cutaway view above) permits the stand, head, and base to swivel as a unit within the adapter collar. The coiler may thus be offset for can diameters up to 20 inches and still maintain a straight gear drive take-off for coilers of all makes.

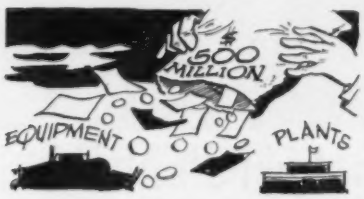
Southern States Coilers are designed for direct attachment to any make of card, left or right hand. Installation is rapid and economical. Other outstanding features of the Southern States Coiler include: ball bearing throughout—head, shaft, cantable ... cut tooth gears throughout ... tubular steel stand ... precision-ground calender rolls ... self-aligning pillow blocks on upright and calender roll shafts ... fully adjustable can table ... quickly detached coil spring roll-loading device ... and many others fully described in our Technical Bulletin 205, available from your Southern States representative or by mail direct from us.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA


offers new approach to
mill automation with individual spindle
Highest WEAVE ROOM EFFICIENCY
through precision-built tip bunch
Best ratings in CLOTH QUALITY
through fewer and perfect transfers
Lowest over-all COST PER POUND
in winding plus weaving
Fast RETURN on the
INVESTMENT
Full FLEXIBILITY per
loom and spindle
AMERICAN SCHLAFHORST CO.
THE FERRELL MACHINE CO., INC.

NEWS IN BRIEF

Textile Spending Steady. U. S. textile manufacturers plan to spend $500 million on a seasonally adjusted annual basis for new plant and equipment in the first



quarter of 1961, unchanged from last year's figure, according to the U. S. Department of Commerce and the Securities and Exchange Commission.

Second Thoughts on Hodges. Textile men who expected a friend in court on the appointment of North Carolina's Governor Luther H. Hodges, a former textile mill president, as President Kennedy's Secretary of Commerce, are now not so sure. Secretary Hodges told reporters after his appointment that he could make no commitment that the Kennedy Administration would give the textile industry any relief against imports.

No Floor on Carpets. Carpet sales will increase as much as 35% by 1965, board chairman James L. Eastwick of James Lees and Sons Co. predicts. He bases his estimate

on the additional disposable income which American consumers

Labor-Management News

Labor Relations Principles. The following five principles are the current objectives of National Association of Manufacturers in the labor relations field, as drafted by its Industrial Relations Committee: 1. Individuals should be guaranteed freedom to join or not to join a labor union, without intimidation or coercion from any source. 2. Monopoly practices by both employers and labor unions should be prohibited. 3. Collective bargaining serves the best interests of those concerned when conducted at the local level. 4. The use of force and violence in labor disputes violates individual freedom and is against the public interest. 5. Government intervention in labor disputes should be restricted to impartial administration of applicable laws.

Reject Union. Employees of Owens-Corning Fiberglas Corp., Anderson, S. C., rejected representation by the Glass Bottle Blowers Association (AFL-CIO) by a vote of 779 to 428 in an election conducted by the National Labor Relations Board. * * * Members of Textile Workers Union of America at Owens-Corning's Huntingdon, Pa., plant recently received a wage hike of 2½%, in addition to pension and insurance plans negotiated earlier last year.

Newly Unionized. Three wet processing plants recently signed contracts with Textile Workers Union of America: Redmond Finishing Co., East Stroudsburg, Pa., with 68 employees, signed up without an election; Penn Dye Co., Pine Grove, Pa., which employs 39, also signed without an election, but only after a week's strike; and at Bristol Textile Printers, Inc., Bristol, R. I., employees voted 17-13 for TWUA, with three ballots challenged. In the New York metropolitan area, six small textile firms with a total of 92 employees also joined the TWUA fold.

Inside Social Security. An up-to-date 32-page handbook giving the latest information on Social Security, including the amendments effective this year, has been published by Commodity Research Publications Corp. Designed for

distribution to employees, the booklet, entitled "Your New Social Security—1961 Edition," is written in easy-to-understand language. Quantity prices are available, and company officials may obtain review copies by writing to the publisher at 82 Beaver St., New York 5, N. Y.

IDEAL
Feathertouch
750

THE ULTIMATE IN DRAWING EFFICIENCY

This Ideal two-delivery Feathertouch 750 was developed for those mills which demand the highest possible speeds. It is of particular value in processing blends or a variety of numbers, where one such frame might produce all the sliver necessary for a certain blend or order.

SIMPLICITY Electro-Magnetic Clutch eliminates belts, shafts, pulleys, etc. Complete and compact electrical system. Only 5'3" high. All parts easily accessible. Permits normal maintenance by average mill overhauler and electrician.

PRODUCTION Actual normal mill production speed is 750 fpm. Produces as much highest quality sliver per hour as late model four delivery frames—with far less total downtime.

EFFICIENCY Each 750 is individually driven and has its own individual vacuum cleaning system which picks out more dirt and fly (but less spinnable fiber) and keeps clearer slubs out of stock. Uses 18" x 42" coiler cans.

ECONOMY Higher speeds, fewer work stoppages, and lower operating and maintenance costs produce highest quality sliver at the lowest per pound costs.

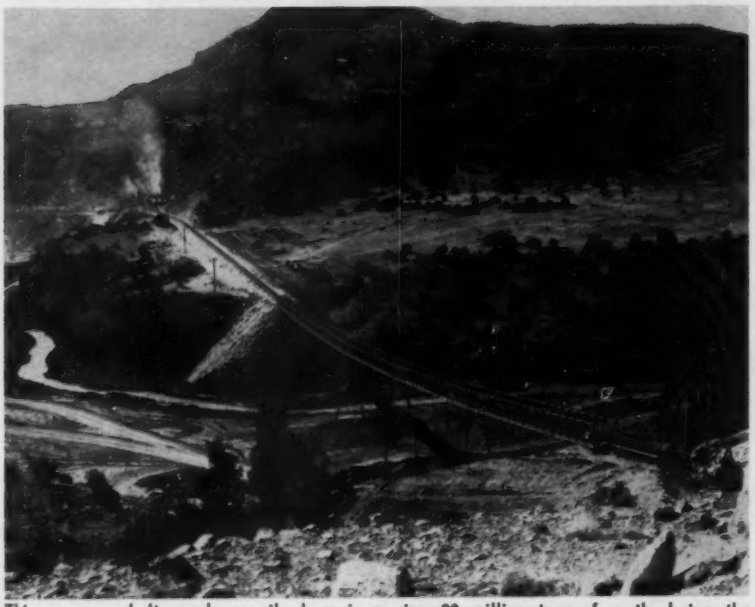
DIVERSITY Ideal Feathertouch Drafting Systems are readily adaptable to processing carded and combed cotton, wool, and all types of synthetics and blends of staple lengths ⅞" through 3".

The Ideal Feathertouch 750 is the fastest, finest, and most efficient drawing frame you can buy. Write for full information.

Ideal Industries, Inc.
Bessemer City, N. C.

THE ORIGINATORS OF HIGH SPEED DRAWING

For further information use Handy Return Card, Page 175



This conveyor belt nearly a mile long is moving 20 million tons of earth during the construction of the Abiquiu Dam in northern New Mexico. The rubber-covered five-ply belt is made with a high-tenacity rayon warp and a heavy nylon filling. The belt was manufactured by U. S. Rubber Co.; it was shipped to the site in five sections, vulcanized into one endless length, and installed. The belt runs at 800 feet per minute.

Maid of Cotton for 1961 is Linda Joy Lackey, Forest, Miss., a speech major at the University of Mississippi. Linda Joy is a member of the same sorority chapter at Ole Miss as the last two winners of the Miss America crown.

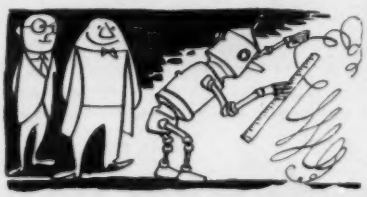
will have by then, and the manner in which it will be spent.

Specs for Carpet Backing. Manufacturers of tufted carpeting and weavers of jute backing fabrics met recently and reached agreement on a number of items in suggested specifications for these backing fabrics. However, further study and tests in a number of areas are considered necessary before firm standards can be published.

Imports Good for You—NAM. If the United States pursues sound economic policies at home, the industrial resurgence of other nations will be beneficial rather than destructive to the American economy, according to the National Association of Manufacturers. In the

report of a study made by its Economic Advisory Committee, NAM says that foreign competition can have the same helpful effects that domestic competition has. It is interesting to note, however, that of the 27 members of the Committee, only one (Robert Train, president and chairman of Bibb Mfg. Co., Macon, Ga.) is a textile man. And further, the NAM's "ad hoc" Committee on Foreign Competition numbers among its members no textile men at all.

Measuring Cotton Fibers. Quick and accurate measurement of cotton fiber length distribution is the



goal of a new research project being financed by the National Cotton Council. Specific aims of the $25,000 project awarded to Motion Control, Inc., of Dallas, Texas, are to design a device that will automatically prepare a cotton sample for measurement, and that will in some way measure and record the fiber length. Instruments are to be so designed that they can later be combined into a fiber evaluation production line.

More Mills Lease. Textile mills

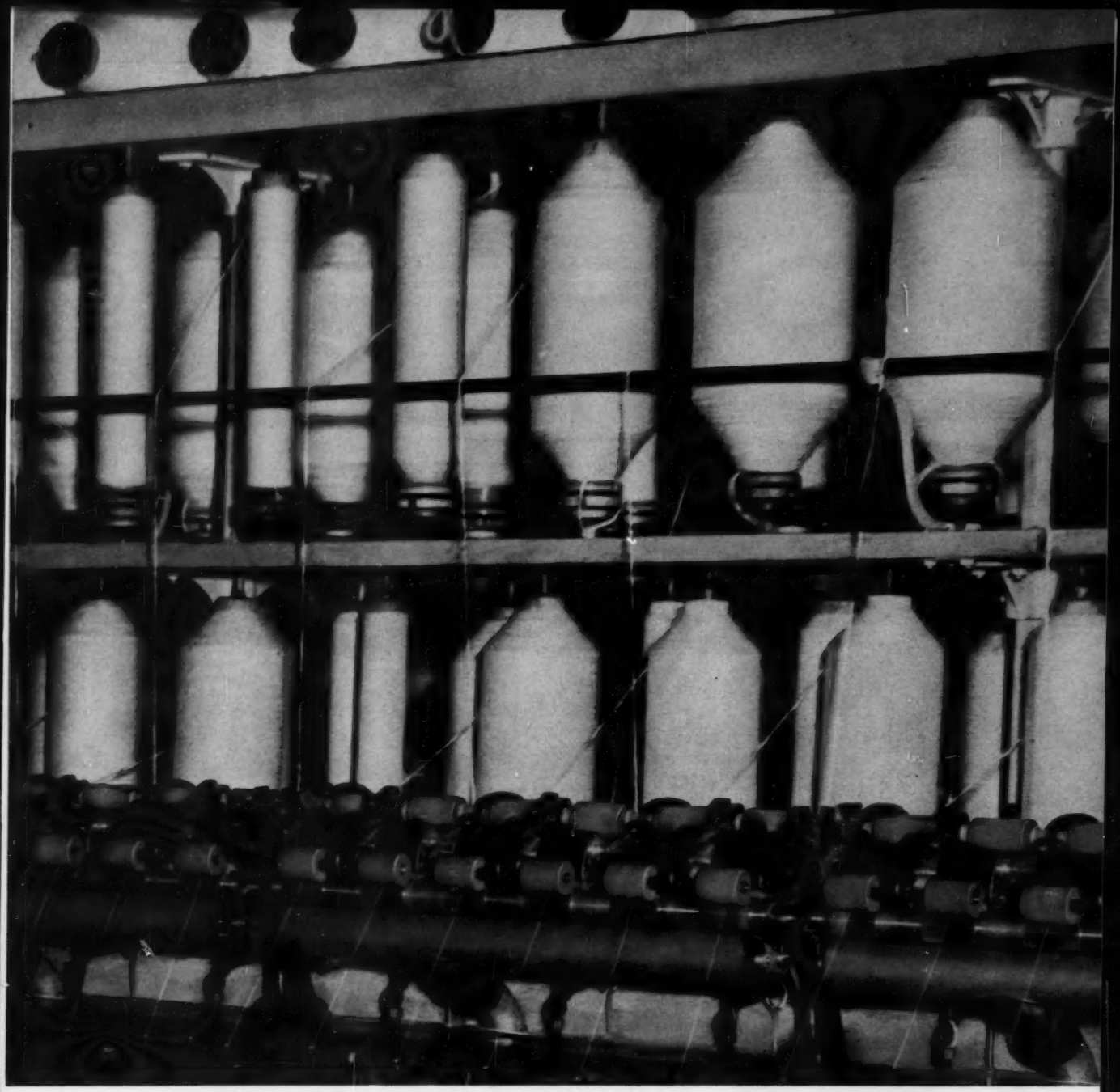
last year signed long-term leases for production and office equipment worth $10.3 million, according to Robert Sheridan, president of Nationwide Leasing Co. This was an increase of 151% over the 1959 figure. Equipment leased by all industries in 1960 totaled $530 million, Mr. Sheridan said, predicting that annual leasing volume would reach $1 billion by 1962.

Japan Sets Canada Quota. The Japanese Ministry of International Trade and Industry has announced a quota of 28 million square yards of cotton fabrics for export to Canada in 1961. This compares

Mr. Martin O'Neil, Overseer of Spinning at Chicopee Manufacturing Corporation, Manchester, N. H., checks yarn quality with Armstrong representative D. T. Starkey.

Get maximum production of high-quality yarn

If front roll lap-ups, eyebrowing, or yarn irregularities are slowing down production for you, a switch to Armstrong Accotex Cots may help bring your production up to maximum level. • The special rubber compounds that go into Accotex Cots are engineered to overcome these common spinning problems. For example, new anti-static compounds eliminate the major cause of front-roll lapping and have solved the problem for many mills. • Another anti-static material, Accotex NC-762, has effectively reduced eyebrowing in mills that use flat clearers—and provided a substantial reduction in total waste as well. • Armstrong has



. . . for years . . . with Armstrong Accotex Cots

also developed new compounds which give excellent service on drafting systems where a softer cot reduces yarn irregularities and improves break strength. • Your Armstrong man will be glad to discuss your spinning problems with you and recommend an Accotex Cot that fits your needs. Call him or write for more information to Armstrong Cork Company, Industrial Division, 6502 Ivy Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX COTS

"No more tight ends in our warps"

Photo of Yarn Inspector, Electrotense and Static Eliminator at Wm. Skinner & Sons

The LINDLY Electronic Triumvirate Gets the Credit

YARN INSPECTOR – ELECTROTENSE – STATIC ELIMINATOR

Closeup of Electrotense in creel.

Lance Static Eliminator — not visible in installation photo.

When we asked William Skinner & Sons, Holyoke, Mass. for a report on their installation of a Lindly Automatic Warp Yarn Inspector, the Lindy Electrotense in their creel and a Lindy Static Eliminator, their answer was prompt and enthusiastic: "No more tight ends in our warps."

However, when we asked them to go back temporarily to warping without the Lindly controls, so we could get some comparative "before" data, they flatly refused. "Why should we go through that again, when we don't have to?" they asked, and we can't blame them.

Since Skinner didn't need comparative data to prove the value of the Lindly Electronic Triumvirate, we doubt if you would either. So why not try an installation? Here's what the triumvirate is and does:

THE LINDLY AUTOMATIC YARN INSPECTOR is a high-speed, ultra sensitive photo-electric instrument for detecting yarn defects in warps, such as broken filaments, strip-backs and fluff balls. It can be made to operate a counter, a signalling device, or to actuate a machine stop switch — singly or in combination for any degree of imperfection.

THE LINDLY ELECTROTENSE for warp creels, winders, twisters, knitting machines, etc. provides completely uniform tension for any number of ends and the tension for all ends can be varied by turning only **one** dial. It consists of two conventional discs with an electromagnetic coil beneath. The lower disc is of non-magnetic brass, while the upper disc is of magnetic iron. When the coil is energized through a central electronic control, the upper disc is attracted downward, pressing the yarn between it and the lower disc in any degree desired. The pressure is pulsating, which prevents backup of twist and helps keep the tension discs clean and free turning.

LANCE STATIC ELIMINATOR, made in a variety of models, has a textile application wherever static electricity is a problem. It carries a high voltage discharge from pointed electrodes into the air, causing the fibre to be surrounded by ionized air, which serves to discharge the static electricity accumulated all around the surface of the fibre. Whereas the voltage is high enough to ionize effectively the air, it cannot harm the operator, who accidentally comes in contact with the electrodes.

Write us for more information about "eliminating tight ends in your synthetic fibre warps." No obligations.

FOSTER MACHINE COMPANY

ELECTRONIC SALES DIVISION, DEPARTMENT TI-2

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C.

468-0

For further information use Handy Return Card, Page 175

with the estimated 25½ million yards sent to Canada in 1960.

Patent Office Exhibit. Chemicals and synthetics are to be featured in an exhibit sponsored by the U. S. Patent Office, theme of which is "Science, Industry, Invention, and the U.S. Patent System." The exhibit will be held in the U. S. Department of Commerce Building Lobby, Washington, D. C., during the period February 13-March 10. Among American firms to show their technological advances are: Allied Chemical Corp., Deering Milliken Research Corp., Minnesota Mining & Mfg. Co., Owens-Corning Fiberglas Corp., and Permacel Tape Corp.

Starnes Spinning Pushed. The ringless and flyerless spinning and winding system invented by Earl Starnes of Russell Manufacturing Co., Alexander City, Ala., (see TEXTILE INDUSTRIES for September 1960, p. 175), will be developed for commercial application by Starnes Planetary Spinning Systems, a new firm founded in Birmingham, Ala., by Mr. Starnes and Fred F. Phillips of Buck Creek Cotton Mills.

Making Army Fabrics? Textile manufacturers who produce fabrics used in army uniforms should get a copy of U. S. Army Uniform Quality Control Office Bulletin No. 1, issued last December 5. It contains latest instructions for getting fabrics certified. Write to the Office at Kansas St., Natick, Mass.

Textile Faculty Aid Change. Beginning next July, the salary supplements paid for the last 15 years to members of the textile school faculty at Georgia Tech by the Textile Education Foundation will be provided by the Georgia Tech Foundation. TEF will now use its funds for other purposes at the school, and its members will be asked to contribute to the Joint Tech-Georgia Foundation, principal source of support for the GTF and the University of Georgia Foundation.

Merchandising Notes

Cellusuede Products, Inc., is offering a Mylar polyester film flocked with rayon, and is promoting it as a successor to a wide variety of fabrics, plastics, paper, rubber, and leather. The Mylar film used is 0.0015″ thick, with 0.03″ of rayon flocking applied.

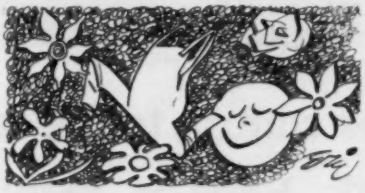
City of Paris, a San Francisco department store, recently conducted a promotion in its men's store, in which customers could have worsted neckties handwoven

to order for $2.50 while they waited. A handloom and weaver were supplied for the promotion by Los Wigwam Neckties, of Denver, Colo.

Collins & Aikman Corp. reports that 70% of its 1961 seat cover line for automobiles will be in Jacquard designs similar to the original body cloth, with about one-third of the line in nylon.

Columbus Fiber Mills Co. is producing olefin-fiber swimming pool covers to supplement its seat-cover operations. Advantages claimed for the covers are that they float, permit rain to pass through while keeping trash out, and are strong enough to walk on.

Denim Council will conduct a two-week Spring Denim Days pro-



motion to highlight denim sales opportunities at the retail level. Dates are April 17 through 29.

Du Pont Co. reports that more than 8,000 department, furniture, and floor-covering specialty stores across the country will participate in a program to promote carpets of 501 filament nylon this spring.

Archibald Holmes & Son is currently featuring a knitted high and low loop pile carpet, "Conquista," with a Creslan acrylic fiber face.

Lace Art Co. is using stretch nylon lace in women's intimate apparel.

National Cotton Council has designated May 15-20 as National Cotton Week.

Ponemah Mills is producing a wash-and-wear broadcloth of 50% Vycron polyester fiber and 50% Avron rayon.

Quaker Lace Co. is offering a lace tablecloth, called "Kent," made entirely of Dacron polyester fiber, even to the sewing thread.

Wool Bureau is focusing its spring-summer women's wear promotion on sheer, lightweight wool dresses which it calls the "new naked wools."

Popularity of trampolines level with the ground brought the problem of air entrapment under the fabric. It was solved in this case by using a perforated Hypalon-coated nylon fabric made by Reeves Bros.' Vulcan division.

At new Foster plant of Alice Manufacturing Co., Easley, S. C., Amco systems give just the right temperature, humidity and room cleanliness.

Amco systems control temperature, humidity, room cleanliness at ALICE Manufacturing Company

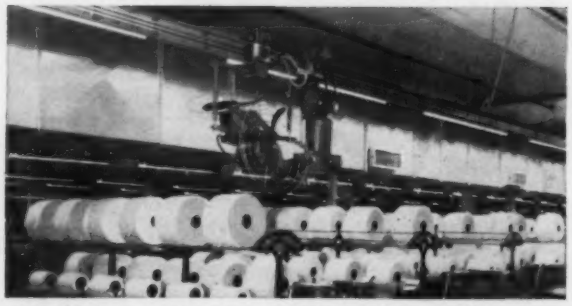
Alice Manufacturing Company is noted for its fine print cloth. One big reason for its success: rigid quality control.

Exact temperature, humidity and room cleanliness control is a must in this manufacturer's quality control set-up. That's why Amco Central Station Air Conditioning, Amco Ceiling Cleaners and Amco Heliclone® Loom Cleaners are on the job!

AMCO AIDS OUTPUT, CUTS WASTE

Here's how Amco-controlled temperature, humidity and room cleanliness help improve quality and boost production. They keep materials in top condition during each processing step to assure stronger, smoother, more uniform fabric. They permit closer machine adjustments, higher machine speeds. They reduce broken fibers, dust, fly . . . greatly decrease the need for cleaning . . . eliminate troublesome static electricity.

You can always rely on Amco to give you dependable advice and expert installation best suited to your needs. Why not learn how Amco can help *your* mill? Contact your nearest Amco representative today.



Combing department at Alice Manufacturing Co. relies on Amco Central Station Air Conditioning and Amco Ceiling Cleaner. Consulting engineers: Campbell and Leppard.

AMCO

Since 1888

Air Conditioning Equipment — Textile Specialties

American Moistening Company, Cleveland, North Carolina
Branches: Atlanta, Ga., Providence, R. I., Toronto, Ont.

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RECENT TECHNICAL AND COMMERCIAL DEVELOPMENTS

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

FIBERS AND YARNS

New Orlon Acrylic Staples. The Du Pont Co. is now offering a 3-denier Type 24 Orlon Sayelle bi-component acrylic fiber specifically designed for use in fine-gauge full-fashioned sweaters, said to make possible a crisper hand. Other new Orlon products are a Type 44 for cross-dyeing when used with Type 42, available in 6-denier tow and a new high-shrinkage staple. Expected to be available later in the year are a tow about 20% larger in size to increase productivity by Turbo processors, and a staple and tow with improved whiteness retention.

Fireproof Orlon. Designated as "Fiber AF," Orlon acrylic fiber heat-treated in air at temperatures over 160 C is said to become black, fireproof, and resistant to destruction on exposure to short-term thermal irradiation. Transverse properties are described as being poor. Applications are anticipated in fireproof clothing, e. g., apparel for the protection of flame-throwers.

Improved Nylon Tire Yarn. Chemstrand Corp.'s Type FRN nylon yarn is said to be superior in fatigue resistance to any of the existing nylon yarns commercially available. Reports of tests in tires indicate fatigue resistance increased by over 100%. The improved yarn is expected to permit the use of a higher percentage of tires for retreading.

Polypropylene Fiber Developments. It is reported that three techniques for increasing the dyeability of polypropylene fibers include: (1) incorporation of a small amount of xylene prior to melt spinning to act as a mild blowing agent, the slightly expanded filaments making easier acceptance of dyestuffs, (2) subjecting the fiber to a bath containing a stress cracking agent to develop sufficient voids to facilitate dye penetration, and (3) grafting vinyl pyrrolidone and/or acrylic acid onto the fibers, usually by irradiation. The introduction of voids tends to reduce fiber tenacity by 10-15% and the grafting technique adds about 10-15¢ per pound to the basic cost.

Modified Polyester Fiber. Toyo Rayon Co. Ltd. is reported to be developing a Teteron polyester fiber with reduced elongation for blending with cotton.

Light-Resistant Nylon. A new light-resistant factor ("R-factor") incorporated during nylon yarn manufacture has been developed by Chemstrand Corp. Said to be applicable to Cadon multilobal yarn and Cumuloft filament textured yarn as well as other nylon yarns, the light-resistant factor results in a strength loss of only 4% and an elongation loss of only 2% after 30 days exposure, while older-type yarns lost 35% of their strength and 54% of their elongation under the same conditions. The improvement is considered particularly important in cases where packages remain on creels for over two weeks.

Crimped Rayon Staple. American Enka Corp. is marketing "Skybloom" rayon staple as a specialty crimped fiber for use in making chenille yarns for tufted and woven bedspreads. The fiber is claimed to be resilient and to have resistance to drop-out.

Heat-Resistant Fiber. Minnesota Mining & Manufacturing Co. has developed "Pluton," described as an "all-organic" fiber capable of withstanding temperatures as high as 18,000 F. The fiber does not melt or char, and is being evaluated in phenolic resin laminates for missile nose cones and rocket engine parts.

MACHINERY AND PROCESSES

Shuttleless Loom Propulsion. A new method for filling insertion by use of two disks rotating at high speed was recently demonstrated at the Manchester (England) School of Science and Technology. The technique, still in the experimental stage, was said to be suitable for cotton yarns as fine as 50s.

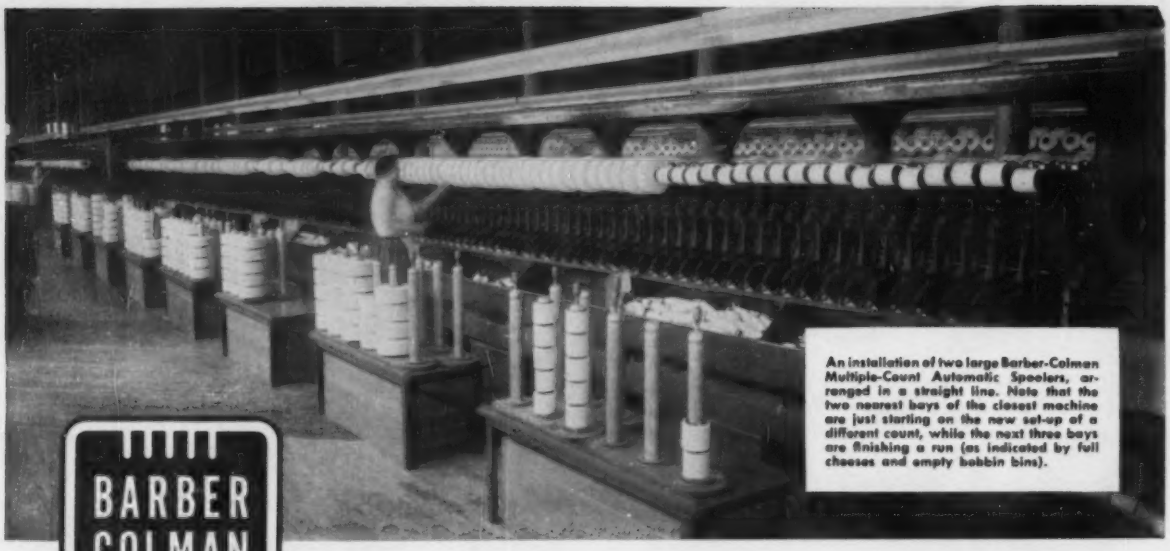
High - Speed Lace Machine. Available for manufacture under a licensing agreement is a new method for producing lace at a rate five times faster than is possible with existing machines. The radically new design uses stationary bobbins, and guides the warp threads around the bobbin threads by means of rotating drums carrying needles.

Measuring Degree of Raising. An English device soon to be produced commercially is designed to measure the degree of "raise" in napped fabrics.

Bobbin Stripper. Originating in Holland, the Cezoma stripper for removing thread waste from spools with or without flanges works on an unwinding principle. The waste is collected by suction and deposited in an enclosed box at the end of the machine. Stripping by this compact device is said to be carried out at a rate of 600 quills per hour.

Caprolactam Process to Allied. Allied Chemical Corp. has acquired the exclusive U. S. and Canadian rights to the new process developed by Snia Viscosa of Milan, Italy, for the manufacture of caprolactam, monomer for nylon 6. Snia's process uses toluene, rather than phenol, as a starting point.

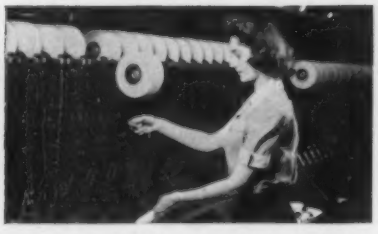
(For Mr. Goldberg's review of 1960 textile research achievements, see page 82.—Eds.)



An installation of two large Barber-Colman Multiple-Count Automatic Spoolers, arranged in a straight line. Note that the two nearest bays of the closest machine are just starting on the new set-up of a different count, while the next three bays are finishing a run (as indicated by full cheeses and empty bobbin bins).

BARBER COLMAN

Multiple-Count Automatic Spooler



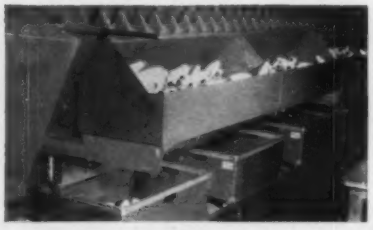
Spooler tender loading a full bobbin into the Spooler. The bobbin is dropped into a "pocket," and the yarn end is slipped into a spring clamp which positions it properly for the knotter to pick up.

Yarn man moving a trident of full cheeses from operator's table to a creel truck. He also returns tridents of starters, removes boxes of empty bobbins, and keeps full-bobbin bins supplied. Boxes under operator's tables are for tailings, and cheeses to be rewound.

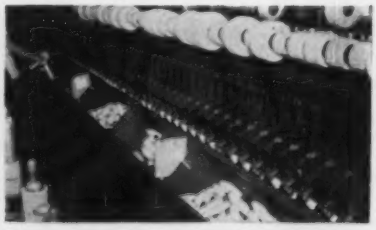
Sale yarn mills and producers of piece goods that use various counts or different mixtures will find that this machine can be a very profitable investment. It is still the famous and the very familiar Barber-Colman Automatic Spooler, but with this difference: now you can wind . . .

A DIFFERENT COUNT EVERY NINE UNITS

The machine is built in "bays" between uprights that support the traveler track, with nine bobbin-to-cheese winding units on each side of each bay. Empty bobbins, instead of being conveyed to a single sorting table, drop into separate boxes under each bay, thus enabling each group of nine units to be used for a different yarn count. Individual operator tables service each bay. The only limitation is that the extremes of different counts on the machine at any one time must fall within the range of the knotter in the traveler. Yarn or count changes can, of course, be readily made at any time, and any number of bays can be run on identical yarns.



A close-up of the full-bobbin supply bins which are fixed to the machine, one bin for each nine winding units. The removable empty-bobbin boxes are shown on the floor below, also arranged so there is one box for each nine units. Note box location guides.



A close-up of several full-bobbin bins showing how dividers can be used to mark off separate runs. Labels tell contents.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

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EXECUTIVE VIEWS

Prepared by a man who is closely identified with the textile industry.

Farm problem a labor union problem

and the farm problem very definitely affects the textile industry, because of government control of the production and marketing of cotton

Exclusive

ONE OF THE worst festering economic sores in the United States today is what we call "The Farm Problem." Both political parties have wrestled with this for years without finding any solution, because there is no solution. At regular intervals both political parties present new schemes for ameliorating the farmer's problems, but nobody is going to come up with a solution to these problems, because there is none. This farm problem very directly affects the textile industry, because of the government control of the production and marketing of cotton.

The farmer's problem is not, strictly speaking, a farm problem but a labor union problem. The labor unions have formed giant monopolies which completely control whole industries. The heads of these labor monopolies wield more economic power than any other group of persons in the United States. One man, or at least one man who must only consult a small number of other men, completely controls the automobile industry. Similar control is exercised in steel, and other industries.

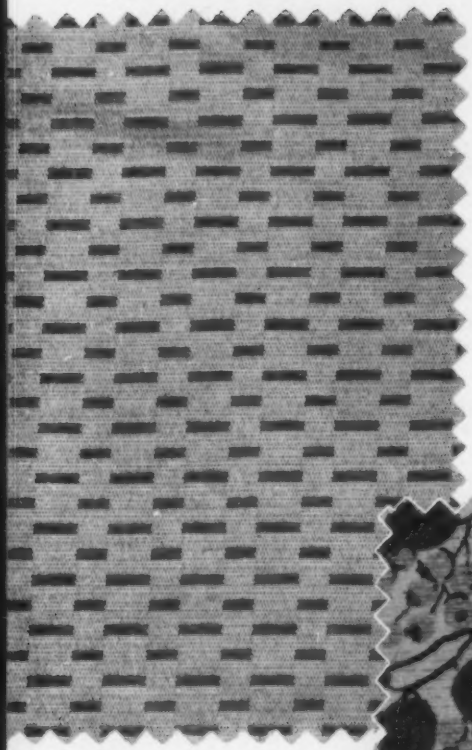
These labor monopolies have raised the cost of everything the farmer must buy, but the farmer's income, unless forcibly boosted by government activities at the taxpayer's expense, is just about what it was years ago when the cost of things the farmer must buy averaged about half of what these costs are now.

A recent newspaper article pointed out that the labor cost of automobile repairs had increased more than 100 per cent in ten years, and therefore when the farmer has to have his automobile or his tractor worked on he is paying about two or two and one-half times as much as he did ten years ago for the same job. This tremendous disparity between costs determined by the arbitrary actions of labor racketeers and costs determined by free and open competition has made the farmer a ward of the government, and he is probably going to remain in that dependent position for a great many years.

WHAT HAS HAPPENED to the farmer can, and will, happen elsewhere. It is happening right now to the textile industry. Just as the farmer has to meet world competition, so does the textile industry. While farmers still produce an enormous exportable surplus which the government is expected to take off of their hands at inflated prices, the textile industry, which has lacked government subsidization, has simply shrunk itself down to take care of domestic demand. It has been a long time since there has been any substantial, genuine textile export business from the United States. What we speak of as textile exports are mostly government handouts or shipments of American textiles to supply our military units scattered over the world.

The farmers have been able to cut production costs tremendously through mechanization, and the textile industry has done the same thing. The typical well-equipped farmer can produce about twice as much per employee as he could a few years ago, and a great many textile mills have cut their labor forces in half by buying more efficient machinery. Unfortunately for the textile industry, the United States has no monopoly on highly productive machines. There are mills scattered all over the world with very modern equipment and with labor costs that seem fantastic when compared with those in this country, where textile wages are considered quite low when

Variety's
your challenge.....



Tomorrow's markets will belong to the mills that have prepared for them today. UNIFIL® Loom Winders are giving modern mills a market-oriented advantage.

UNIFIL Loom Winders enable weave rooms to use a wide variety of filling yarns; natural and man-made; spun, filament and textured. The single shuttle weave room can switch filling yarns from one count to another, from one fabric to another as quickly as fashion trends change — *and at no extra cost.*

While insuring against market demand variances, UNIFIL Loom Winders drastically reduce inventory and production planning, work scheduling and employee training. These savings and the inherent operating economies of UNIFIL are the major factors in purchasing decisions.

UNIFIL's unmatched versatility meets today's needs and tomorrow's markets. It allows mills to wind from any filling supply *economically.* Quills are wound and shuttles loaded, empty quills stripped and returned for rewinding — *all automatically at the loom!*

Investigate UNIFIL for greater versatility and economy. Learn the reasons why leading textile mills consistently reorder UNIFIL Loom Winders. Call your nearest Leesona Sales Engineer — in Boston, Philadelphia, Charlotte, Atlanta or Los Angeles. Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island. Keep pace with your market with UNIFIL.

..... meet it with *Versatility!*

Some of the many modern mills that are meeting today's challenges with **UNIFIL** *Loom Winders*

ABDON TEXTILES, INC.
ABNEY MILLS
AMEROTRON COMPANY
BEMIS BRO. BAG CO.
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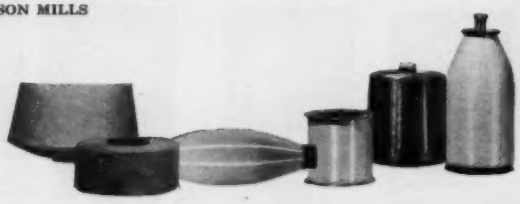

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TRUST COMPANY OF GEORGIA

ATLANTA

Condensed Statement of Condition

December 31, 1960

ASSETS

Cash on Hand and Due from Other Banks		$ 70,600,665.58
United States Government Obligations	$37,686,360.72	
Municipal Bonds	11,396,433.67	
Other Securities	592,915.00	49,675,709.39
Loans and Discounts		120,007,307.62
Overdrafts		38,891.91
Banking Houses, Furniture and Fixtures		4,513,249.87
Customers' Liability on Acceptances and Letters of Credit		1,891,341.33
Accounts Receivable and Accrued Interest		1,224,874.13
Prepaid Expenses and Other Assets		473,385.12
TOTAL		$248,425,424.95

LIABILITIES

Capital	$ 4,090,000.00	
Surplus	11,000,000.00	
Undivided Profits	5,467,533.73	$ 20,557,533.73
Reserve for Contingencies		2,240,870.03
Reserve for Expenses, Taxes, etc.		2,807,354.78
Acceptances and Letters of Credit		1,891,341.33
Accounts Payable, Unearned Interest, etc.		1,491,166.59
Deposits (*Including U.S. Treasury Tax and Loan Accounts)		219,437,158.49
TOTAL		$248,425,424.95

*U.S. Treasury Tax and Loan Accounts . . $ 8,439,412.95

Assets pledged to secure public funds (including U.S. Treasury Tax and Loan Accounts), trust balances and other liabilities as required by law . $36,009,615.86

MEMBER: FEDERAL DEPOSIT INSURANCE CORPORATION

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compared with those paid in industries completely under the domination of labor monopolies.

The labor union tycoons have strived mightily to extend their monopoly control throughout the textile industry, but it has been repeatedly shown that unionization can not raise wages much in any industry where there is true competition. The only way a labor union can keep jacking up wages is by getting complete monopoly control over an industry, as is the case with automobiles, steel, and several other industries. Even if TWUA did get complete control of all textile labor, there is grave doubt about the possibility of raising textile prices much without imposing complete embargoes on the importation of foreign textiles. Even with present wage scales, which are considered low, we have trouble enough damming the flood of foreign goods, and a very small price increase encourages the importation of more textiles. A price increase of any substantial size would start a veritable flood of foreign goods, because our tariff protection is barely able to take care of us under the existing conditions, and the temper of the times seems to be opposed to increasing tariff protection.

EVERYTHING seems to indicate that the union-organized industries are going to keep on raising prices indefinitely, and of course these high prices have to be paid by everybody. When steel workers get $3.50 an hour, millions of people who make perhaps half to two-thirds that much are being victimized for the benefit of the steel workers. Everyone who buys an automobile helps to contribute to the kitty for the unionized auto workers. The people who run these big labor monopolies seem to be solely interested in how much they can gouge out of the general public for the benefit of their followers, irrespective of what this gouge may do to the national economy and to the members of these favored unions in the long run.

Steel production is reported at this writing to be down around 55 per cent of capacity, and nobody knows yet whether this is entirely due to the high price of steel

Continued on page 63

FUTURE EVENTS

Date		Event	Location
Feb.	7-9	Canadian Textile Conference	Queen Elizabeth Hotel Montreal, Canada
	8	American Association for Textile Technology annual meeting	Hotel Commodore New York City
	9-10	Wool finishing conference, sponsored by U.S. Dept. of Agriculture	Western Regional Research Laboratory Albany, Calif.
	11	Southeastern Section AATCC	Callaway Gardens Pine Mountain, Ga.
	13-16	International Heating and Air-Conditioning Exposition	International Amphitheatre Chicago, Ill.
	16-17	American Society for Quality Control, Textile & Needle Trades Division	R. E. Lee Hotel Winston-Salem, N. C.
	17	Metropolitan Section AATCC	Hotel New Yorker New York City
Mar.	10	Hudson-Mohawk Section AATCC	Johnstown, N. Y.
	16-17	Textile Research Institute annual meeting	Hotel Commodore New York City
	16-17	ASME Textile Engineering Conference	Clemson College Clemson, S. C.
	23-24	Textile Quality Control Association	Hotel Charlotte Charlotte, N. C.
	23-25	American Cotton Manufacturers Institute annual meeting	Fontainebleau Hotel Miami Beach, Fla.
Apr.	2	Piedmont Section AATCC	Washington Duke Hotel Durham, N. C.
	7	Niagara Frontier Section AATCC joint meeting with Ontario Section CATCC	St. Catherines, Ont.
	12-14	Alabama Textile Manufacturers Association annual meeting	Buena Vista Hotel Biloxi, Miss.
	16-18	Narrow Fabrics Institute, Inc., meeting	The Tides Inn Irvington, Va.
	18-19	Institute of Textile Technology board of directors and technical advisory committee	ITT Charlottesville, Va.
	19-21	Southeastern Regional ISA Conference and Instrument Exhibit	Park Center Charlotte, N. C.
	24-28	Knitting Arts Exposition	The Auditorium Atlantic City, N. J.
	24-25	Underwear Institute annual meeting	Hotel Dennis Atlantic City, N. J.
	24-25	National Association of Hosiery Manufacturers annual convention	Claridge Hotel Atlantic City, N. J.
	26-29	Georgia Textile Manufacturers Association annual meeting	Hollywood Beach Hotel Hollywood, Fla.
	27-28	Fiber Society	Ga. Center for Continuing Education, Athens, Ga.
May	4-5	AIEE conference on Electrical Application for the Textile Industry	Heart of Atlanta Motel Atlanta, Ga.
	4-6	Phi Psi textile fraternity national convention	Hotel Shoreham Washington, D. C.
	5-6	Northern New England Section AATCC	Jug End Barn Egremont, Mass.
	6	Alabama Textile Operating Executives slashing and weaving discussion	Thach Auditorium Auburn, Ala.
	16-17	Cotton Research Clinic and Cotton Marketing Conference	Peabody Hotel Memphis, Tenn.
	24-27	Tufted Textile Manufacturers Association annual meeting	Deauville Hotel Miami Beach, Fla.
Sept.	28-30	AATCC national convention	Hotel Statler Buffalo, N. Y.
Oct.	11-21	International Knitting Machinery and Accessories Exhibition	Belle Vue Hall Manchester, England
Nov.	8-9	Chemical Finishing Conference	Sheraton Park Hotel Washington, D. C.

"Custom tailors" to industry

Since 1926, Sims has been designing and fabricating the specialized equipment called for in the manufacture of textiles.

As "custom tailors" of stainless steel, Sims' recommendations, designs, and fabrications are dictated by your particular problem, need, requirement or application of equipment. And, Sims specialists are on the job from start to finish to assure meticulous attention to even the smallest detail... the craftsmanship that unconditionally guarantees that the finished product will meet and surpass your most exacting specifications.

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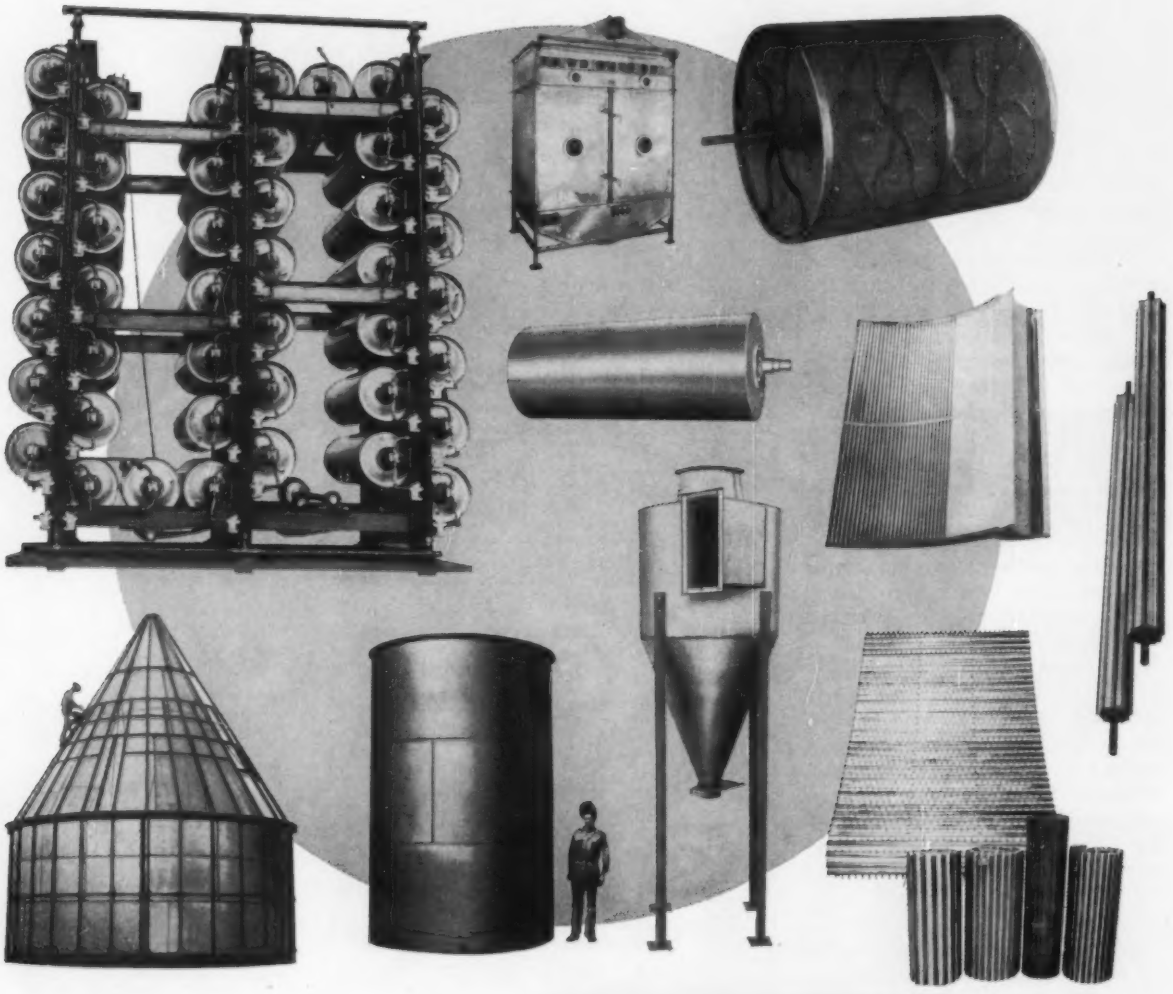

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Harley D. Hohm, Inc., 128 Buist Ave., Greenville, S. C.
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METAL WORKS
WEST POINT, GEORGIA

Specialists in
Stainless Steel Fabrication

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Improve quality–

lower handling costs with...

EAGLE®

easy flow starch

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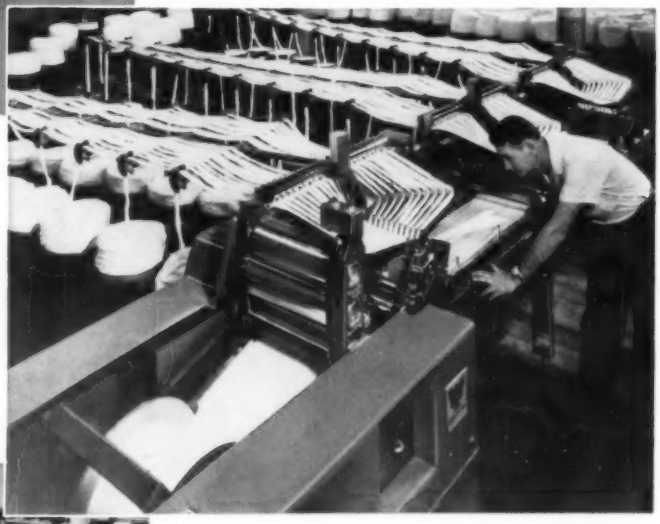
helpful data on these fine products for the Textile Industry:
GLOBE® · EAGLE® · FOXHEAD® · TEN-O-FILM® · CLARO® · CRESCENT® starches · GLOBE® · EXCELLO® dextrines.

CORN PRODUCTS COMPANY INDUSTRIAL DIVISION · 10 East 56 Street, New York 22, N. Y.

the WHITIN way to BETTER COMBING

The Whitin combing process is gaining rapid recognition as a major advance in the manufacturing of combed yarns. Scores of mill customers are reporting the increased production of higher quality sliver. Manufacturing costs are low and its simplicity of construction adds to its efficiency and ease of maintenance.



The Whitin Even-Draft Drawing Frame is unexcelled for drawing either before or after combing. Sliver of uniform quality is produced at speeds of 450† F.P.M. It also features a proven pneumatic waste removal system.

†*Up to 600 F.P.M. carded.*

Laps are formed on the new Super Lap machine. It drafts 48 - 60 ends at up to 800* lbs. per hour, forming a lap ideal for combing.

The Whitin Super J Comber has established an international reputation for fine performance. It is capable of producing up to 60* lbs. per hour. High nep removal ratio, excellent sliver quality and accurate waste control contribute to better yarns than ever being spun from given cotton grades. Its performance is equally outstanding on either super quality or production combing.

**100% efficiency.*

Sales agents in all principal textile centers

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CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

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Picker Overhauling Is Simple When You Depend On . . .

Aldrich Repair Service

We furnish skilled men for reworking pickers, and can deliver to these men any needed parts within 24 hours in most southern states, and within 48 hours to almost any cotton mill in the United States. This makes thorough overhauling a simple matter. Anything needed for a good job can be had at once, while the machine is down for repairs.

If you do your own overhauling, this speedy delivery service is just as valuable. You don't have to wait for repair parts — they are there when you want them.

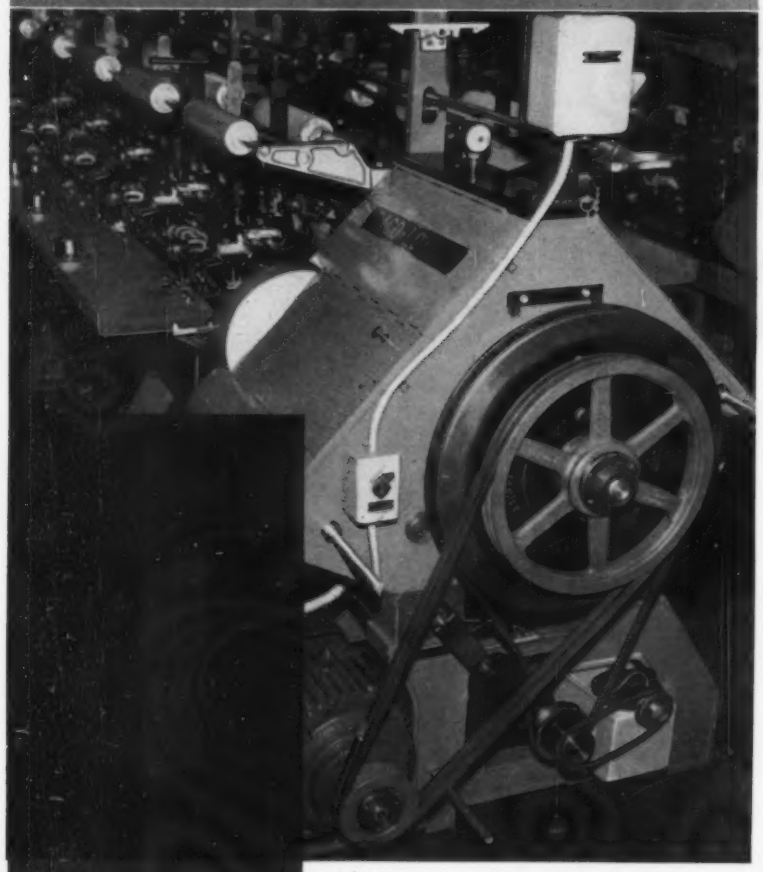
We manufacture and install complete blending, opening, and picking systems for cotton and synthetics, and cleaning systems for cotton.

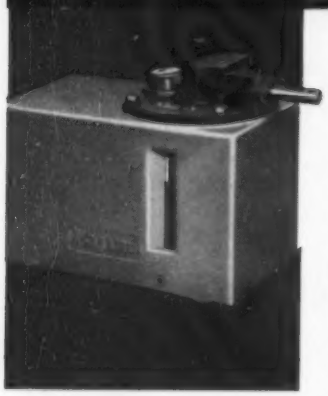
Aldrich Machine Works

Greenwood, South Carolina

How To Save By SPENDING...

(A Production Tip From Bijur)





Walk down your production line and you'll see your machines equipped with Bijur Automatic Lubricating Systems outproducing machines with manual lubricating. If you can spot the difference, so can your Cost Accounting.

Only a little time and money are needed to convert *all* of your machines to Bijur Automatic Lubrication. Figure out the savings brought about by this improved efficiency, and ask Bijur to help you determine how fast the cost of Bijur equipment can be amortized.

As more equipment manufacturers turn to Bijur, this replacement problem will disappear. Your first step, for now, is to write for descriptive literature. Next step: Put the savings in your pocket. 4140

BIJUR LUBRICATING CORPORATION

155 West Passaic Street • Rochelle Park, New Jersey

Pioneers in Automatic Lubrication

PERSONAL NOTES

(from page 15)

of mechanical engineering, Massachusetts Institute of Technology, has been elected president of the Fiber Society. **Dr. John Dillon,** president of the Textile Research Institute, was elected vice-president.

Rogers L. Johnson, formerly chief technologist, has been named associate research director of The American Thread Co., Inc. • • • The systems and methods department has been expanded and has become a part of the industrial engineering division, under the direction of **Arthur B. Hall,** director of industrial relations and industrial engineering. **C. E. Lawton** will be in charge of the operation under Mr. Hall.

At the annual meeting of the Durene Association of America held recently, **Freeman R. Harris,** vice-president of Standard-Coosa-Thatcher Co., was elected president. Other officers elected were: vice-president —**Milton Meyers,** president of Clarence L. Meyers & Co.; treasurer—**W. H. McDonald,** vice-president and treasurer of Southern Mercerizing Co.

George W. Ray, Jr., has been named superintendent of the Mayo (S. C.) Mills, a division of Neisler Mills.

Thomas R. Watts, formerly executive assistant for Robberson Steel Co., has accepted a like position with Callaway Mills Co., LaGrange, Ga. • • • **Glover Mapp** has been promoted to overseer of the inspection and cut order departments at the Hillside plant. **William M. Owens** has been promoted from assistant overseer to overseer of compounding unit and sample department.

Edward Eugene Williams, Jr., has been named manager of the Eureka plant of The Springs Cotton Mills, Chester, S. C.

Calder Smith has assumed the duties of general overseer of carding and spinning at the Cedartown, Ga., plant of The Goodyear Tire & Rubber Co. • • • **R. J. Woodford,** production superintendent of the Gadsden, Ala., plant, has been appointed manager of interplant relations.

Wiley McWhorter has been promoted to shift supervisor of card

For further information use Handy Return Card, Page 175

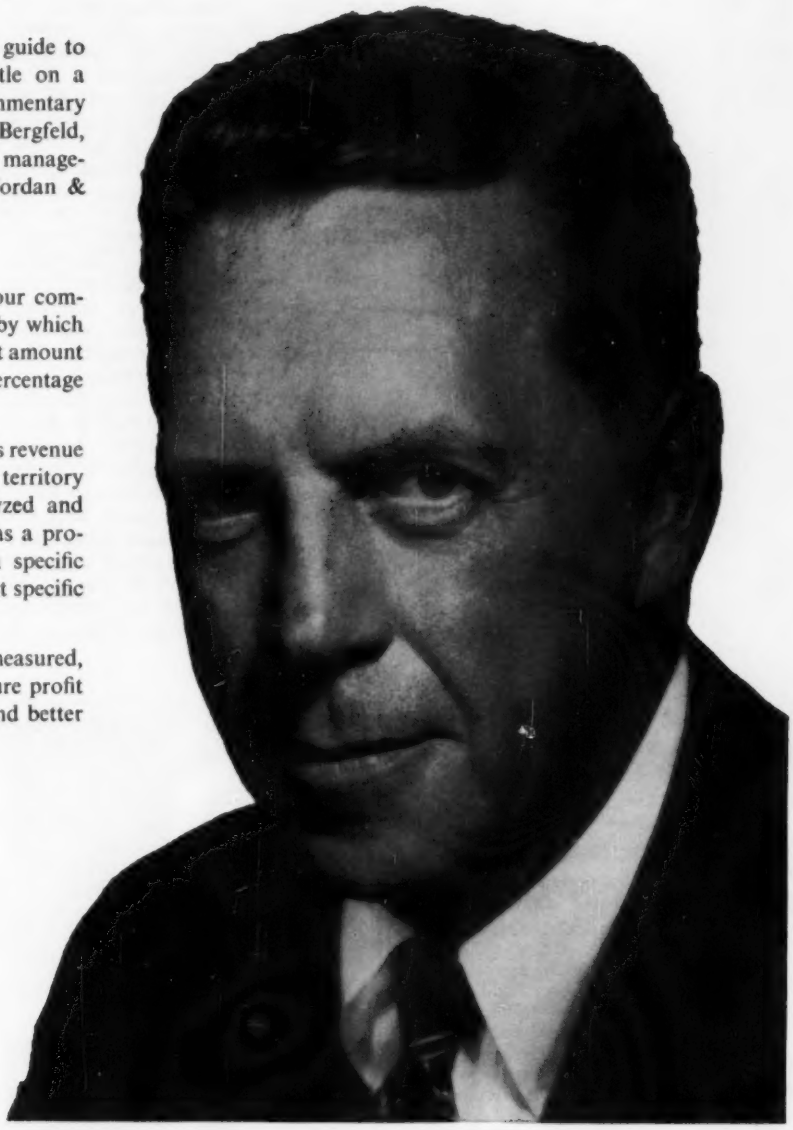
"What's so bad about basing the ad budget on last year's shipments?"

Management men, seeking a reliable guide to advertising appropriations, often settle on a percentage of sales. The following commentary on this practice was written by A. J. Bergfeld, President of the internationally known management consultant firm of Stevenson, Jordan & Harrison, Inc.

"Past practices of your own or of your competitors will produce no magic ratios by which you can either judge or budget the right amount of advertising automatically as a percentage of past sales.

"Plans for increasing sales volume, sales revenue and resulting profits by product and by territory or by divisions, can better be analyzed and approved by considering advertising as a programmed cost to be associated with specific profit plans and to be measured against specific results.

"Programming advertising costs as a measured, reasoned and integrated part of a future profit plan usually results in a better plan and better actual future profits."



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ends with the Simco "Midget"

This electronic static eliminator is *unconditionally guaranteed* to end all static problems . . . safely, inexpensively . . . the most effective neutralizer available for use on cards, garnetts, warpers, slashers, finishing machines, and all other textile applications. The "*Midget*" assures static-free warps and slivers every time. Simco is America's largest manufacturer specializing in static neutralizers, anti-static cleaning devices and sprays, and meters for locating and measuring static.

Equip your machinery now.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

PERSONAL NOTES

(from page 36)

grinding at the Stark plant of United States Rubber Co., Hogansville, Ga. **Luther D. Harris,** foreman of the picker room, has retired.

Earl R. Stall, vice-president and a director of Cone Mills Corp., has retired. Mr. Stall will remain on the board and the committees on which he is now serving. Other employees who retired recently are: **Arthur Makin,** manager of the Tabardrey plant; **M. A. Bearden,** general manager of the Cliffside division; **James H. Wrenn,** assistant overseer of beaming and slashing at the White Oak plant; **Edward R. Gerringer, Sr.,** overseer of the cloth room at the Mineola plant; **Walter Charlie Smith,** assistant overseer of the spinning department at the Edna plant; **Hugh Deadmon,** assistant overseer of spinning at Salisbury plant; **Alonzo S. Parks,** assistant overseer of card department at the plant. **Lewis S. Morris,** vice-president, has assumed executive responsibility for the Cliffside plant. **Earl R. Stall, Jr.,** assistant vice-president, has been given the executive responsibility for the operation of the American Spinning plant, Florence plant, and the Haynes plant. **William B. Burke** has been named superintendent of power for the firm. * * * **James A. Dameron** has joined the Proximity Print Works in charge of the printing department.

At the annual meeting of the northern New England section of the American Association of Textile Chemists and Colorists, **Edward J. McNamara, Jr.,** of Hamilton Chemical Corp., was elected chairman. Other officers elected were: vice-chairman—**Frank J. Rizzo,** Quartermaster R & D Command; treasurer—**William W. Pennock** of E. I. du Pont de Nemours & Co., Inc.; secretary—**Joseph S. Panto** of Fabric Research Laboratories, Inc.

Clarence E. Hafford, formerly senior vice-president, has been named president and chief executive officer of Glenoit Mills, Inc., a division of Botany Industries, Inc.

Frank P. Cecere has been appointed manager of manufacturing for Lally Manufacturing Corp. Mr. Cecere will supervise production at the Bennington, Vt., and Utica, N. Y., plants.

Douglas H. McElhinney, formerly associated with Mohasco Industries, Inc., has been appointed director of research and development for Cabin Crafts, Inc., Dalton, Ga.

Albert C. Gray, head of the southern spinning mills of Coats & Clark, Inc., has retired. **P. E. Hilley** has been named to succeed Mr. Gray.

At the recent meeting of the Rhode Island section of the American Association of Textile Chemists

Mr. Morris
Cone Mills

Mr. Stall, Sr.
Cone Mills

Mr. McElhinney
Cabin Crafts

Mr. Hilley
Coats & Clark

Mr. Gerringer
Cone Mills

Mr. Burke
Cone Mills

Mr. Bearden
Cone Mills

Mr. Makin
Cone Mills

For further information use Handy Return Card, Page 175

Si

A perfect example of SPSFPA!*

"A little more Tallow, Sir?"

* Si's Personalized Service For Purchasing Agents

Some of Si's best friends are Purchasing Agents. We consider that this is a good deal, seeing as how Purchasing Agents buy things and we sell things.

Part of SPSFPA is the special SEYCO Customer Service Phone. When you want quality and service, pick up the phone and call TRinity 6-1797.

If Si doesn't serve you quickly and effectively, we'll make our next batch of tallow out of him.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

SEYCO

748 RICE STREET, ATLANTA, GEORGIA

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HAND-IN-HAND WITH D&F
"Coordinated Production"
in the Woolen System

- Davis & Furber "Coordinated Production" **means** the successful efforts of D&F Men, Methods, Machines and Materials to produce more useful products of better quality and greater efficiency.
- D&F "Coordinated Production" **means** the most modern, most productive wool preparatory, Carding, Spinning, Yarn and Finishing Machinery Systems in the world.
- It **means** a single, dependable source for a complete line of Accessories, Supplies, and Maintenance Parts: Card Clothing, Garnett Wire, Napper Clothing, Condenser Tapes, Rubb Aprons, etc.
- It **means** Operational and Maintenance Instruction, Advice and Counsel on D&F equipment.
- It **means** impartial, technical, In-the-mill survey, Analysis and Recommendation.
- Essentially, D&F "Coordinated Production" **means,** to the mill, Long-Term profits in highly competitive markets. Call us about it today. We'll be glad to show you the way.

Are you on the D&F News Mailing List?

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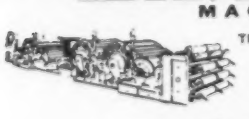
MACHINE COMPANY



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CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS
SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

PERSONAL NOTES

(from page 38)

& Colorists, **John J. Roarke,** of Bradford Dyeing Association, was elected chairman. **Charles Robinson,** of Arnold-Hoffman & Co., was elected vice-chairman.

Freeman R. Harris, vice-president of the Standard-Coosa-Thatcher Co., has been elected president of the Durene Association of America.

William M. Pittendreigh has been appointed director of textile manufacturing development of Riegel Textile Corp. **Earle Mauldin** has been named controller.

At the annual meeting of the Textile Traffic Managers Conference held in New York City recently, **Paul P. Watkins,** traffic manager of the Georgia-Alabama Textile Traffic Association, was elected chairman. Other officers elected were: **J. A. O'Conner,** J. C. Penney Co., **Thomas Smith,** Cone Mills, Inc., and **V. J. Scarpinito,** M. Lowenstein & Sons, Inc., as vice-chairman of regions East, South and West, and Central respectively.

H. Stanton Smith, president of Moore Fabrics, Inc., has been elected president of the Elastic Fabric Manufacturers Institute. **Alan W. Warshow,** treasurer of H. Warshow & Sons, Inc., was elected vice-president.

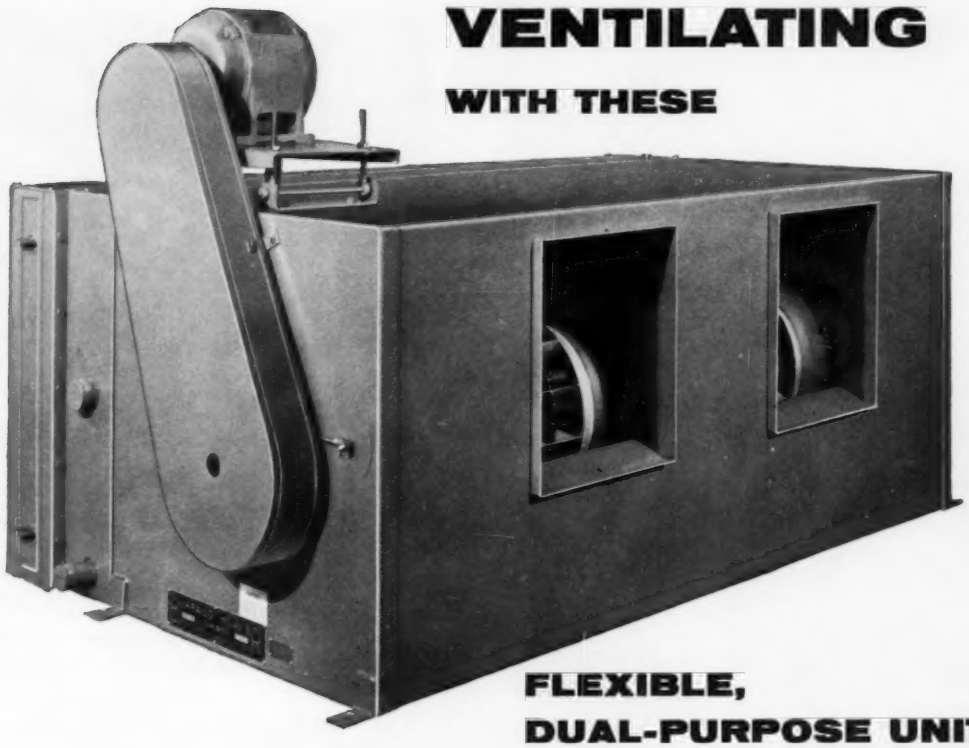
Harold E. Wadley has resigned as chairman and director of Firth Carpet Co. Mr. Wadley will continue as a consultant on styling and designing. **Edward T. Herndon** has been appointed director succeeding Mr. Wadley.

At the annual meeting of the Southeastern Section of the American Association of Textile Chemists & Colorists held in Atlanta, Ga., recently, **William B. Amos** of Jefferson (Ga.) Mills, Inc., was elected chairman. Other officers elected were: vice-chairman—**Leon Tigler** of the Eagle & Phenix division of Reeves Bros., Inc.; treasurer—**Richard D. Seed** of Lanett (Ala.) Bleachery & Dyeworks; secretary—**Richard M. Jones,** of Chemical Services, Inc., Atlanta, Ga.; custodian—**A. Kempton Haynes,** of Rohm & Haas Co., Atlanta, Ga.

H. J. Walter, Jr., has been named manager of the auto fabrics division

Continued on page 44

PLAN YOUR HEATING AND VENTILATING WITH THESE



FLEXIBLE, DUAL-PURPOSE UNITS

BUFFALO Model G HEATING and VENTILATING UNITS are available for heating and ventilating or ventilating only. In cold climates, they deliver the heat you need, where you need it — plus ventilation. In hot areas, they circulate cooling, refreshing air.

And *Buffalo* Units offer you these ***extra*** advantages:

Sectionalized Cabinet — easy to assemble, easy to install and easy to service — includes fan section, coil and base section of welded heavy gauge construction. Available with ½" spray-coated fiberglass insulation inside.

High-Performance Fans — streamlined housings, oversize hollow shafts and mixed flow wheels for stability and efficient distribution at low velocities.

Efficient heating coils — Aerofin Type BNF non-freeze for steam heating to 200 psig and 400°F.; Type H for hot water heating.

Choose any combination — Type HV for horizontal or vertical operation, both heating and ventilating; Type V for ventilating only; choice of filter boxes, mixing boxes, dampers; 45° or 90° outlet elbows, swivel or stationary.

Write for Bulletin UH-130 and select the models that will handle both your heating and ventilation needs at once!

"Buffalo"

BUFFALO FORGE COMPANY

BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

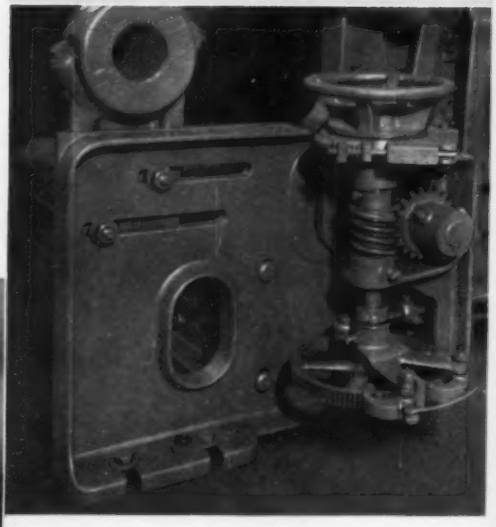
Buffalo air handling equipment to move, heat, cool, dehumidify and clean air and other gases.

Buffalo Machine Tools to drill, punch, shear, bend, slit, notch and cope for production or plant maintenance.

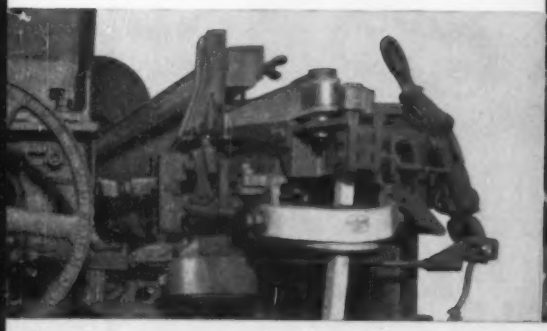
Buffalo Centrifugal Pumps to handle most liquids and slurries under a variety of conditions.

Squier machinery to process sugar cane, coffee and rice. Special processing machinery for chemicals.

X-3 a new dim

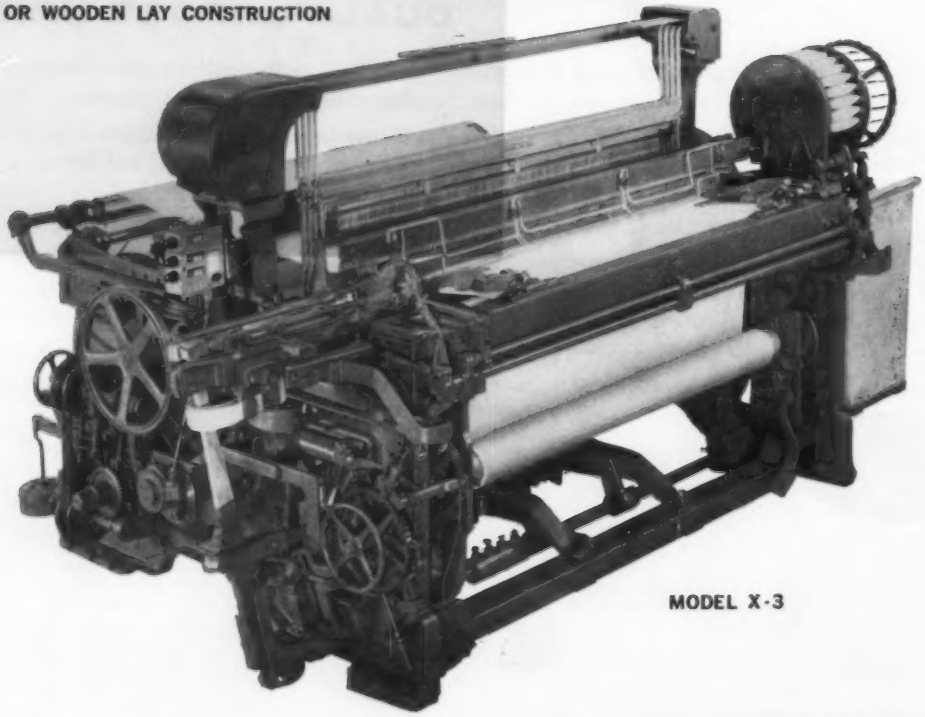


LET - OFFS
Bartlett
Tru-Tension
Hunt



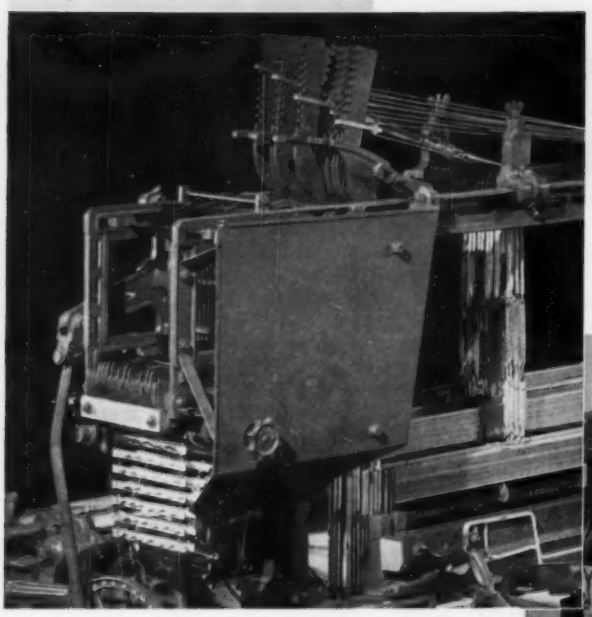
IMPROVED TAKE-UPS
to weave a complete range of Cotton and Synthetic fabrics.

ALUMINUM OR WOODEN LAY CONSTRUCTION

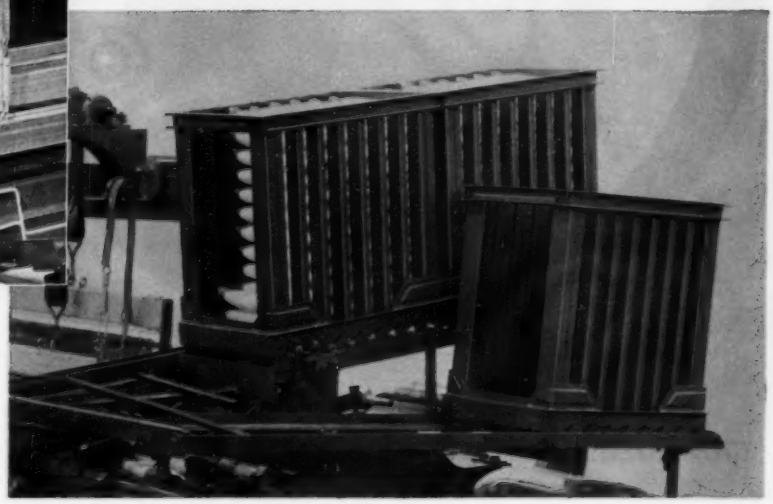


MODEL X-3

ension in weaving



TOP MOTION
New strengthened Dobby — 16 harnesses, 15/32 Gauge
or — 20 harnesses, 3/8 Gauge
Clock Spring up to 6 harnesses



AUTOMATIC FILLING MAGAZINE

The X-3 Model Loom is designed to weave all of the fabrics normally woven on the X-2 and most synthetic fabrics commonly woven on the XD. This loom provides *greater versatility, increased speed, higher quality goods, and lower weave room costs.*

A weight increase of over 500 pounds in frame and shafting*, contributes to added stability, reduces vibration, and permits higher speeds regardless of fabric being woven.

Incorporated in the design of the X-3 are many new materials, parts and mechanisms found to be advantageous to greater loom productivity.

**As compared with a Draper X-2 Model Loom*

D DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

MODERN DYEHOUSE EQUIPMENT

THE DEPENDABLE KWG SKEIN DYEING MACHINE

KWG Double Reel Skein Dyeing Machine —all stainless steel unit built in capacities to 1000 pounds.

FOR QUALITY DYEING
WITHIN INCREASED BUT MORE NORMAL TEMPERATURE and PRESSURE LIMITS

Perfection in dyeing—for natural and the new synthetic fibers—is yours with KWG Skein Dyeing machines. Rugged construction . . . improved 'Ferrous-Wheel' performance . . . give you the penetration and evenness of color—the permanence of tone—for that extra measure of sales appeal—without concern for costly high-temperature, high-pressure methods. Dual-operations possible including scouring, dyeing and shrink-proofing, or scouring, bottom bleaching and dyeing of pastel shades.

You can point the way to extra sales . . . extra profits . . . today by writing Klauder Weldon Giles. A KWG representative will be glad to survey your needs. If necessary, he'll design special equipment to your specifications. There's no obligation.

Klauder Weldon Giles MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET • PHILADELPHIA 24, PA.

PERSONAL NOTES

(from page 40)

of Bachmann Uxbridge Worsted Co., a division of Amerace Corp.

Robert D. Sellers, Jr., has been named a vice-president of Southern Bleachery & Prints Works, Taylors, S. C., a division of Burlington Industries, Inc.

Andrew J. McDermott has been elected a director and executive vice-president of Trans-United Industries, Inc., in charge of the Artloom Carpet Co. division.

Rodney Whitaker, deputy director of the cotton division of the Agricultural Marketing Service, has retired. **Stanley C. Rademaker** has been appointed acting deputy director. Mr. Rademaker will also act as chief of the grading branch of the cotton division.

Dr. Linton G. Ray, Jr., formerly marketing manager of textile marketing for E. I. du Pont de Nemours & Co., Inc., has joined Deering Milliken, Inc., as a vice-president. * * * **Henry D. Ott, Jr.,** formerly chief industrial engineer of the Clemson, S. C., plant of Excelsior Mills, has assumed like duties at the Gayley Mills, Marietta, S. C. * * * **Dr. Earl Berkley,** formerly associated with Anderson, Clayton & Co., Inc., has assumed duties in the cotton department of the Deering Milliken Service Corp.

T. R. Craig, formerly associated with Standard Textiles, has joined Bibb Manufacturing Co. as superintendent of the Forsyth, Ga., plant. **Huey McCoy** has been named assistant superintendent.

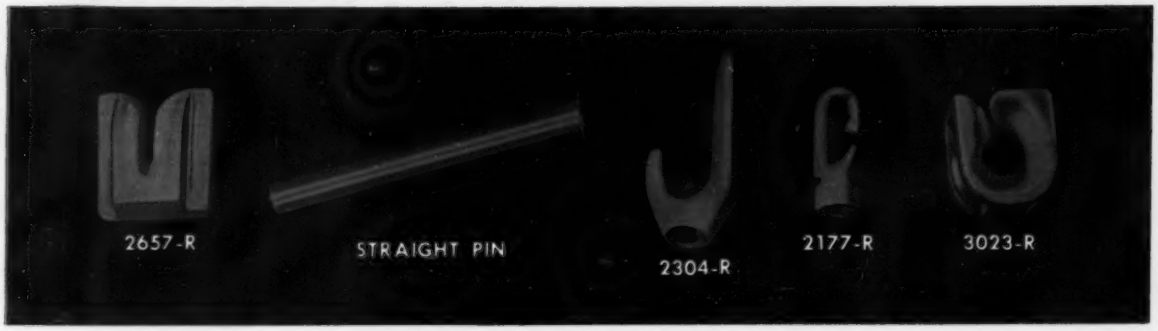
H. Ralls Jennings has been appointed plant engineer for Fulton Cotton Mills, Atlanta, Ga.

At the fall meeting of the Piedmont division of the Southern Textile Association, **J. L. Wright** of

Mr. Whitaker
U.S.D.A.

Mr. Jennings
Fulton

For further information use Handy Return Card, Page 175



"Rutex" TITANIA THREAD GUIDES by MITCHELL-BISSELL

Not Just a Wear-Resistant Surface, but the Same Hard, Dense Material All the Way Through!

Mitchell-Bissell "Rutex" Thread Guides are made from a special homogeneous Titania compound that provides a perpetually hard, smooth wearing surface no matter how deeply the thread may wear into the guide. There is no outer surface to wear through and put an early end to the guide's usefulness. Introduced by Mitchell-Bissell at the recent Southern Textile Exposition, these quality guides were enthusiastically received.

Mitchell-Bissell "Rutex" Thread Guides provide a three-way saving . . . lower first cost, longer service, less downtime. That extremely hard, smooth contact surface never changes because it is characteristic of **all** the material from which the entire guide is made. **Wear-resistance never ends!** You can use these new guides with complete confidence in their quality, efficiency and economy.

"Rutex" Titania Guides are available in many of our standard Porcelain thread guide patterns. For prices, please give Porcelain pattern number, or send sketch or sample of guide you are now using.

EST. 1882

MITCHELL-BISSELL CO.

TRENTON, NEW JERSEY

Southern Representative: HOLT ASSOCIATES, INC., *Greensboro, N. C.*

The Only Manufacturer Offering a Complete Line of All Types of Ceramic and Wire Guides for the Textile Industry.

with Clipper

HOOKS and LACERS

You can lace belts up to 12 inches wide all in one operation with Clipper Belt Hooks and Lacers. Until the Clipper hooks shown above were inserted into the jaws of the lacer, they were protected and held in place by a reinforced card that is easily stripped away once the hooks are in the lacer. The lacer jaws, exerting up to 45,000 lbs. of pressure, imbed the hooks firmly and uniformly across the width of the belt. And in the belt, each hook is separate from the others to give flexibility not possible with other methods of belt lacing. For unmatched speed, strength and flexibility, depend on the proved Clipper machine-lacing method.

FOR MORE INFORMATION

Detailed product information and case history examples of Clipper machine-lacing benefits are contained in Bulletin No. 157. Send for your free copy today.

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

980 Front Ave., N. W. Grand Rapids 2, Michigan

PERSONAL NOTES

(from page 44)

Johnston Mills, Charlotte, N. C., was elected chairman. **Joe Inscoe** of Carolina Mills, Maiden, N. C., was elected vice-chairman.

D. D. Quillian, general manager of manufacturing for the Lumite division, has been elected a vice-president of the Chicopee Manufacturing Corp., headquartered at Cornelia, Ga.

OBITUARIES

Bernhard Altmann, 72, founder and board chairman of Bernhard Altmann Corp., New York, N. Y.

Theodore M. Baxter, 64, asst. manager and buyer for Baxter, Kelly & Faust, Philadelphia, Pa.

Philo Dayton Benham, Jr., 65, founder of Benham Underwear Mills, Scottsboro, Ala.

Walter Brody, purchasing agent for Southerland Mills, Inc., Graham, N. C.

Roger Gant, 73, president and treasurer of Glen Raven (N. C.) Silk Mills.

Russell Hampton, 61, retired vice-president of Cotswold Industries, Inc., Rye, N. Y.

William Harden, 65, secretary of Carlton Yarn Mills of Cherryville and Salisbury, N. C.

Charles W. Kleppinger, Sr., 52, owner of Delmarva Narrow Fabics, Inc., Easton, Md.

Rufus F. Laws, 54, founder and president of A. & L. Hosiery Mills, Inc., High Point, N. C.

Jack H. Mayes, 80, board chairman of Fitzgerald (Ga.) Mills Corp.

Russell C. Smith, director of Cranston (R. I.) Prints Works.

Samuel S. Walker, 63, chairman of the board of Walker Knitting Co., Martinsville, Va.

Charles D. Whitney, 78, former official and operator of worsted mills in Franklin, Mass.

Arthur E. Zwicker, 78, former secretary and one of the founders of the Zwicker Knitting Mills, Appleton, Wis.

For further information use Handy Return Card, Page 175

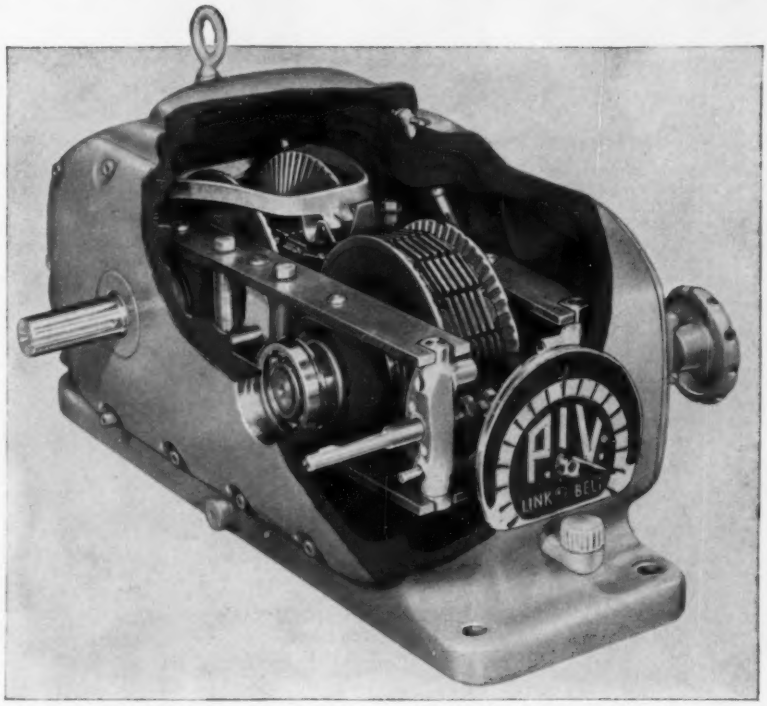
LINK-BELT P.I.V. means positive, infinitely variable speed control

Where modern production machines and operations demand extremely accurate transmission of power with variable speed control, no other variable speed drive can match the efficiency of the Link-Belt P.I.V. Here's how it works.

Because it employs an exclusive metal, self-tooth-forming chain, Link-Belt P.I.V. permits instant and accurate speed changing without perceptible loss of speed—regardless of load. And the variation can be accomplished without stopping the driven machine.

A mere turn of the control screw simultaneously varies effective diameters of conical wheels located on the input and output shafts. In turn, these radially grooved wheels mesh with the self-tooth-forming chain assuring positive selection of speed.

Call your nearby L-B office or authorized stock-carrying distributor for Book 2274.

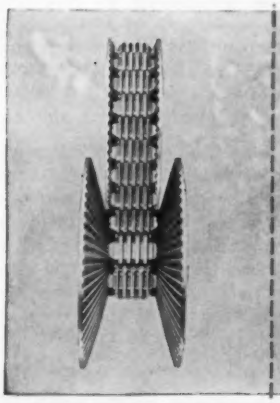


LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, District Sales Offices, Warehouses and Stock Carrying Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World.

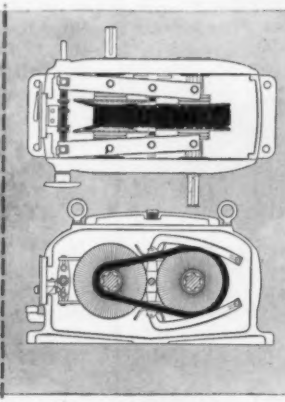
14,318

LONG-LIFE ACCURACY and application flexibility of Link-Belt P.I.V. are unmatched by any other variable speed drive. It's available in 8 sizes and 16 standard types, in capacities from ½ to 25 hp—for horizontal or vertical mounting. Compact design simplifies installation as a separate unit or a built-in part of a machine. Even greater application flexibility can be gained by making motor and helical gear sets integral parts of the P.I.V. Of all-metal construction, P.I.V. is totally enclosed, automatically lubricated.

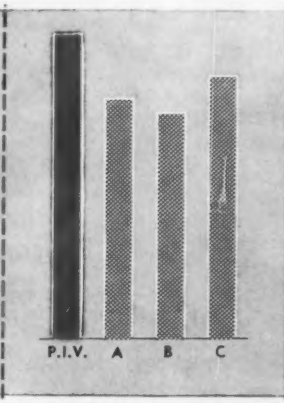
How LINK-BELT P.I.V. differs from other variable speed drives



POSITIVE MESH of self tooth-forming chain with grooved wheels assures full-rated hp at output shaft. All-metal construction . . .

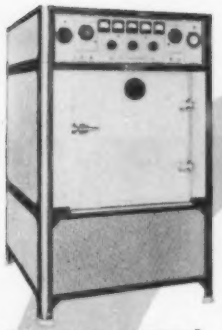


PREVENTS SLIPPAGE because the P.I.V. drive chain does not depend on friction and is unaffected by atmospheric conditions.



UNMATCHED ACCURACY is demonstrated by this actual comparison of maintained rpm of P.I.V. and three other variable speed drives.

GREATER COMPACTNESS results from short-center arrangement of drive mechanism. Some P.I.V. models save 50% on floor space.



WEATHER-OMETER®
Reduces years of the deteriorating effects of outdoor exposure to sunlight, rain and thermal shock to a short laboratory test. Priced $2735.00 up.

FADE-OMETER®
Simulates exposure to Sunlight with controlled humidity in alternate cycles of light and dark, producing a quick accurate test of fading qualities. Price $1350.00 up.

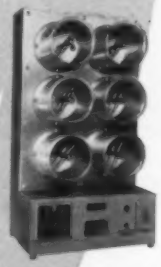
LAUNDER-OMETER®
The standard test machine of the A.A.T.C.C. for determining the color fastness, shrinking, washing and dry cleaning qualities of textiles. Price $875.00.

Atlas-Ometers

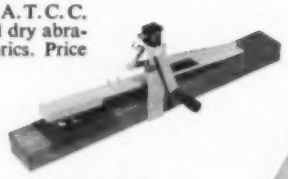
Used all over the world for accelerated testing of textiles and dyestuffs, for colorfastness and wearing characteristics due to light, washing, weathering, abrasion, perspiration, etc. Required in many A.A.T.C.C. and A.S.T.M. test programs and Government specifications.

ATLAS ELECTRIC DEVICES CO.
4114 N. Ravenswood Ave.
Chicago 13, Illinois, U.S.A.

ACCELEROTOR®
Developed by the A.A.T.C.C. for evaluating wet and dry abrasion resistance of fabrics. Price $485.00.

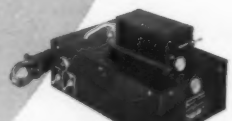


RANDOM TUMBLE PILLING TESTER
For the fast determining of the pilling and fuzzing characteristics of all types of fabrics. Price $485.00 to $890.00.

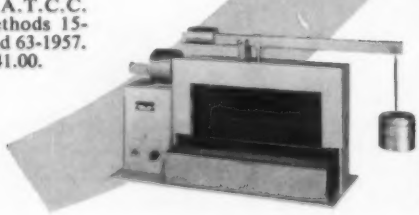


A.A.T.C.C. CROCKMETER
For determination of color fastness to crocking. $42.50 to $55.00.

PERSPIRATION TESTER
For testing color fastness to perspiration and water. A.A.T.C.C. test methods 15-1960 and 63-1957. Price $41.00.



SCORCH TESTER
Standard A.A.T.C.C. tester for damage caused by retained chlorine in fabrics. Price $230.00.



LABORATORY WRINGER and PADDER
For extracting controlled amounts of liquids to produce test specimens as required by many textile test programs. $255.00.

MILL NOTES

A new firm, **Calvert Knit Corp.**, has been formed by Harold Fain, Arthur Modne, and Jack Heller to manufacture double knit worsteds. The company maintains sales headquarters at 450 Seventh Ave., New York City, and manufacturing facilities in Hoboken. As a companion line, the firm will also manufacture Helanca stretch fabrics for the women's and children's slack trades.

The acquisition of A. Stein & Co. by the **Kayser-Roth Corp.** through its wholly owned subsidiary, Apparel Industries, Inc., has been completed. The new business will be operated as an autonomous unit headed by Walter Stein. The firm has acquired the inventories, receivables, trademarks, and several parcels of real estate of **Mojud, Inc.** Kayser-Roth will continue the manufacture and distribution of hosiery under the Mojud name, of which it has been the exclusive licensee, and anticipates the likelihood that the name will be used for the manufacture and distribution of several of its other apparel lines. The firm has also announced the acquisition of **Cole of California,** which will be operated as a wholly-owned subsidiary under its present name.

Darlington Fabrics Corp. of New York City, has announced that they have concluded agreements with Clutsom & Kemp, Ltd., of England, for the manufacture of Darlington's line of high quality wide woven and knitted elastics, for markets other than the U. S.

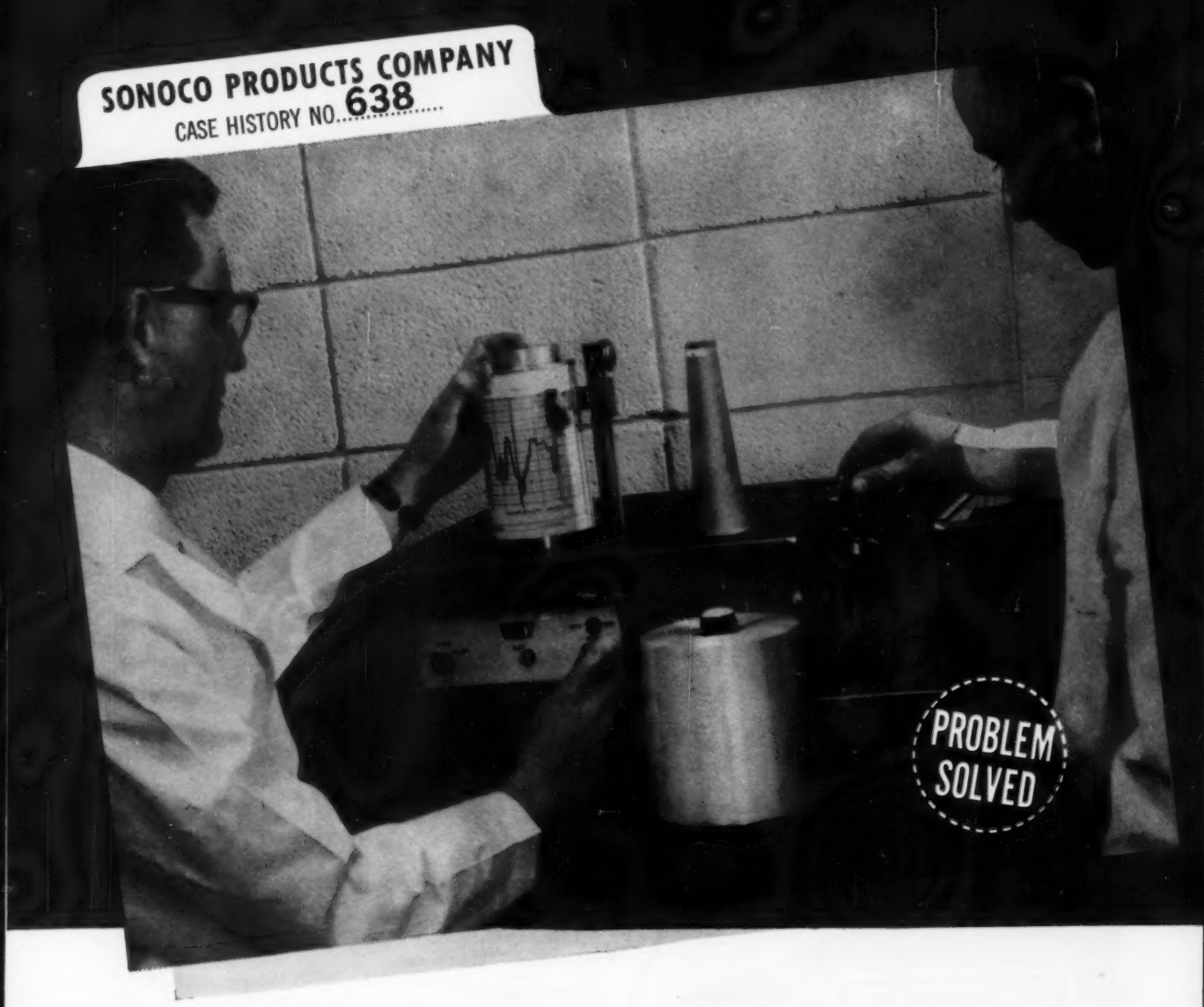
Plans to consolidate the manufacture of broadloom Wilton carpet with the velvet operations in Aberdeen, N. C., have been announced by **A. & M. Karagheusian, Inc.** An addition is presently being constructed to provide for the consolidation. Other operations carried on at the Freehold, N. J., plant will not be affected.

Virginia Elastics Corp., which recently moved to Tappahannock, Va., is producing elastic and knit goods. Approximately 50 people have been

Continued on page 51

For further information use Handy Return Card, Page 175

SONOCO PRODUCTS COMPANY
CASE HISTORY NO. 638



PROBLEM: Discoloration of Yarn

The problem was caused by lacquer bleeding on the yarn. It was assumed that this was due to the effect of the coning oil on the lacquer tip of the cone. Investigation by the customer revealed that only certain cone tips were so affected. From this he concluded that Sonoco's lacquer tips varied in quality and composition. Samples of the customer's coning oil along with samples of the discolored yarn were submitted for testing.

In Sonoco's laboratories it was determined that the sample of coning oil had no effect on the lacquer. Oil was then extracted from the damaged yarn and tests showed that this oil did attack the lacquer almost immediately. This indicated a distinct difference between the coning oil and the oil extracted from the yarn. This was confirmed by the use of special analytical equipment.

Further investigation revealed that oils extracted from yarns supplied by certain manufacturers would cause lacquer softening. It was also learned that oil from yarn supplied by other manufacturers would not affect the lacquer. The study proved the problem was created, not by the customer's coning oil nor Sonoco's lacquer, but rather by the spin finish on the particular raw yarn.

When you buy from Sonoco, technical service of this type is an added benefit. Only Sonoco in its field provides the continuous research, product development, and integrated manufacturing needed to meet the ever-changing requirements of the textile industry.

SONOCO
Products for Textiles

sonoco
PAPER PRODUCTS

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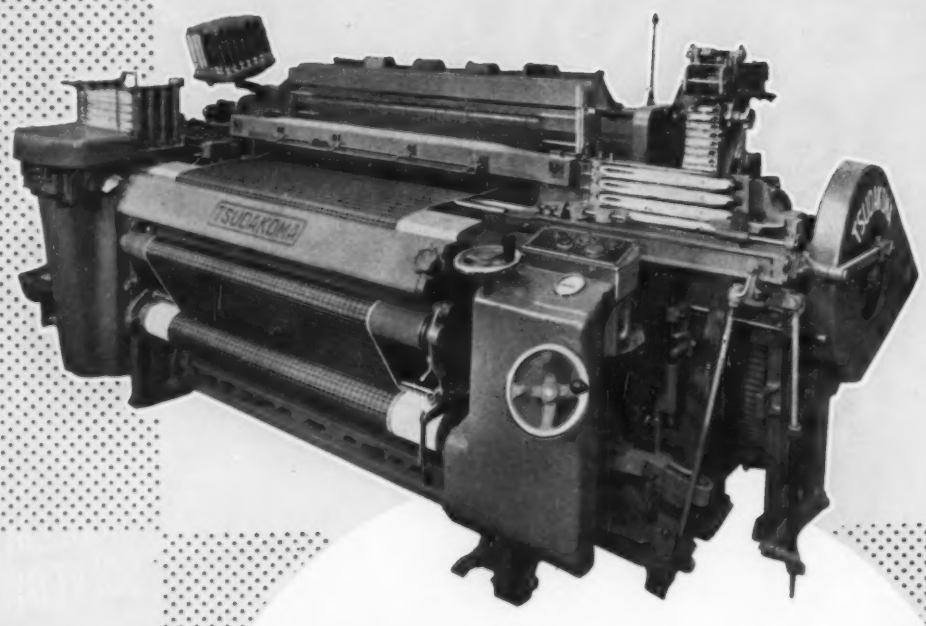
1765

Tsudakoma



ツダコマ

Automatic Loom and Ordinary Loom
for silk, Rayon, Nylon and all Synthetic Yarns

Dobby

Preparatory Machine

Throwing Machine
High Speed Bobbin Winder
Doubling Machine
High Speed Bottle Winder
High Speed Warping Slasher
High Speed Sectional Warper
High Speed Magazine Creel

TSUDAKOMA INDUSTRIAL CO., LTD.

Head Office : Kanazawa, Japan
Branch Office : Tokyo • Osaka

For further information use Handy Return Card, Page 175

MILL NOTES

(from page 48)

employed. Donald D. Waters is plant superintendent.

Kendall Mills, Inc., has awarded a contract for a 55,000 sq ft addition to their finishing plant in Bethune, S. C.

Leshner Corp. has purchased the property formerly occupied by St. Marys (Ohio) Woolen Manufacturing Co. The newly acquired plant will be known as **St. Marys Cotton Mills.**

The 12,000 sq ft addition to **Georgia Tufters Inc.,** Calhoun, Ga., has been completed. The space will be used for increased manufacture of rugs and bath sets.

Bibb Manufacturing Co. has purchased the real estate and most of the machinery of **Macon (Ga.) Textiles.** The newly acquired facility will be used for production of worsted and synthetic knitting yarns.

A new corporation, **Plym-Tex Finishing Corp.,** has been formed in Beacon, N. Y. The firm will specialize in lingerie, dresses, blouses, men's shirting fabrics, and synthetic yarns. Alvin L. Rosenberg is president.

A total of 3,554 employees of **M. Lowenstein and Sons'** grey mills in the Carolinas, Georgia, and Alabama participated in Christmas fund savings last year and received checks in the total amount of $578,000. The plan is entirely optional with each employee.

The employees of Langdale (Ala.) Mill division of **West Point Mfg. Co.,** recently won an award of merit from the National Safety Council for having amassed 1,046,916 man-hours without a lost time accident.

The Fall River, Mass., textile printing plant of **Velveray Corp.** has been closed. The textile and plastic printing plant in the Passaic-Clifton, N. J., area was destroyed by fire some months ago.

Johnson & Johnson has announced the acquisition of all the outstanding stock of **Anniston (Ala.) Manufacturing Co.** No change in operation is anticipated.

A new firm, **Kimberly Yarn Mills,** has begun producing carded yarn in

Tennant-maintained floor in carding department of a large southern mill

Only the TENNANT System can keep your floors this clean

Chances are that your floors *can* look like this the year around . . . *if* you use the TENNANT SYSTEM.

And your maintenance costs will usually run less per year!

Floor seals last longer. Newly-developed TENNANT Floor Seals, specially designed for textile mills, last longer than any comparable materials we know of. This ends need for frequent recoating and reduces annual maintenance costs.

Makes floors easier to clean. The exclusive TENNANT process *actually increases dirt-resistance of the average textile mill floor by 300%.* Soilage wipes off easily . . . in a fraction of the usual time.

Keeps floors bright. The TENNANT SYSTEM'S exclusive cleaning techniques make it easy to keep your floor attractive month-after-month . . . even under heavy traffic.

You'll also enjoy added benefits in improved safety and employee efficiency when your mill is a bright, pleasant place to work in.

Your TENNANT Man is a qualified floor expert, ready to give free estimate of savings possible in *your* mill. For full information, write G. H. Tennant Co., 735B N. Lilac Drive, Minneapolis 22, Minn.

TENNANT

The Textile Industry's Most Widely Used

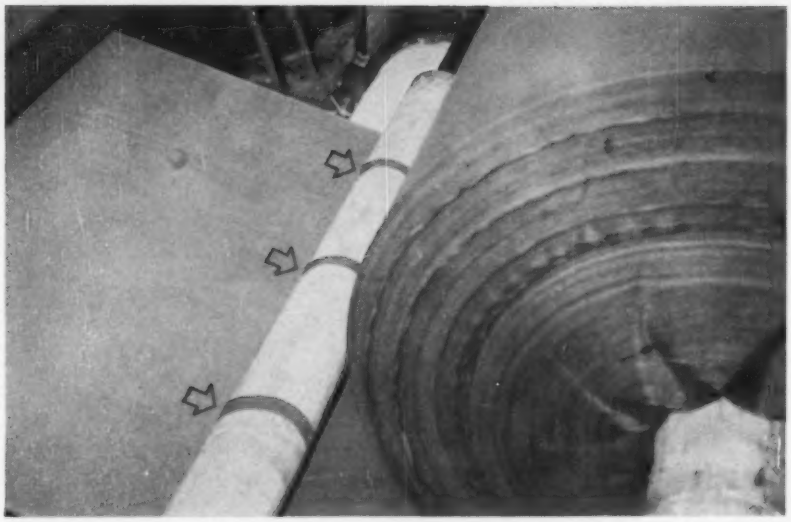
FLOOR MAINTENANCE SYSTEM

Methods

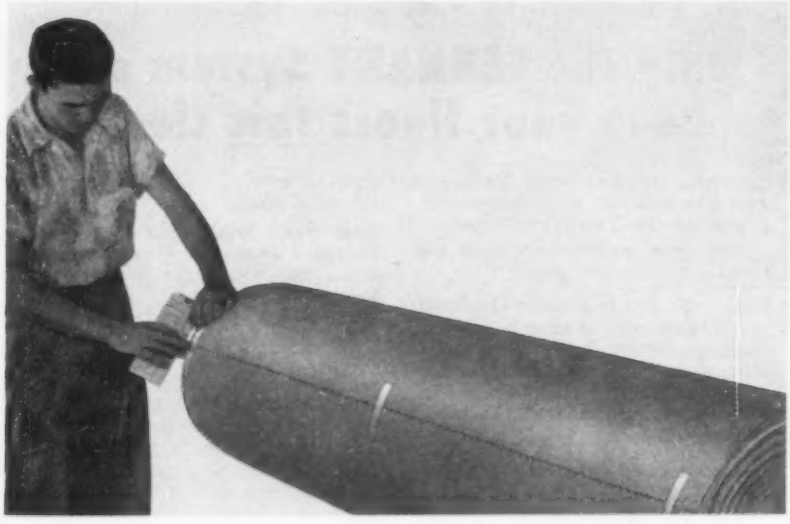
Machines

Materials

FLOOR MAINTENANCE SYSTEMS



from starting the wind
to tabbing roll ends...



finished goods are held with
TEXTILE TAPES FROM 3M

A few bands of stick-at-a-touch "Scotch" Brand Textile Tape on winder shells make high-speed winding a cinch in finishing plants. Cloth is picked up instantly by tape's adhesive . . . one application can be used several times before replacement. And, at the end of each wind, use two or three short strips of "Scotch" Brand Textile Tape to hold the last lap securely. For more information, contact your 3M Representative or nearest "Scotch" Brand Tape Distributor . . . or write: 3M Co., 900 Bush Avenue, St. Paul 6, Minnesota, Dept. IBO-21.

SCOTCH BRAND

Minnesota Mining and Manufacturing Company
...where research is the key to tomorrow

3M COMPANY

"Scotch" is a registered trademark of 3M Co., St. Paul 6, Minn.

MILL NOTES

(from page 51)

the old Woodlawn plant of American & Efird Mills in Mount Holly, N. C. Approximately 100 people have been employed. Roger Young is superintendent.

An expansion program is under way at the **National Spinning Co.** plant in Brunswick, N. C. When completed, floor space will be doubled.

The new Smithfield, N. C., branch of **Fieldcrest Mills, Inc.,** has begun production of automatic blankets. R. F. Sambleson is plant manager.

Cabin Crafts, Inc., Dalton, Ga., recently held an open house for employees and their families to better acquaint them with all operations and lines manufactured by the firm.

Cone Mills Corp. has acquired controlling interest of **John Wolf Textiles, Inc.** The latter firm will operate independently with no change in personnel. * * * Harold Z. Daniel has been named manager of the branch accounting office which was opened recently in Greenville, S. C.

An additional 208 looms and 11,280 spindles will be installed at the White Plant of **The Springs Cotton Mills.** The $2 million expansion program calls for a 47,000 sq ft addition to the plant which will result in the employment of approximately 100 persons. * * * An addition to the Chester, S. C., plant is scheduled to be constructed.

Ames Textile Corp. has expanded the worsted sales yarn production of the Cleveland, Ga., plant.

Verdun Manufacturing Co. has sold the piece-dyeing and finishing division to **National Fabrics Finishing Corp.** Verdun will continue the operation of the worsted spinning division, which was not affected by the transaction.

J. P. Stevens & Co., Inc., and Royal Textile Mills, Nijverdal-Ten Cate N. V. of Almelo, The Netherlands, have announced the formation of a jointly-owned company for the manufacture and distribution of cotton work clothing, rainwear and sportswear fabrics within European markets. The name of the company will be **Stevens-Ten Cate N.V.** * * * J. P. Stevens & Co., Inc., has acquired a tract of land near Louis-

For further information use Handy Return Card, Page 175

ville, Ga. Plans for development of the property have not been announced.

Martin Kamp has acquired complete control of **New York (N. Y.) Knitting Mills, Inc.**

A garnetting plant for synthetic fibers will be constructed at Foley, Ala., by **Hale Manufacturing Co.** The 48,000 sq ft building is expected to be completed in March.

A branch plant has been opened in Shawano, Wis., by **Eagle Knitting Mills, Inc.** Approximately 50 people now staff the facility and it is expected that by June, 150 persons will be employed.

The Ware Shoals, S. C., division of **Riegel Textile Corp.** has been equipped with four additional printing machines. Two new machines have been purchased and two have been transferred from the Trion, Ga., facility.

Taunton (Mass.) Dye & Print Works, subsidiary of Greenville (R. I.) Finishing Corp., has ceased operations. Equipment and some of the personnel will be transferred to the Greenville facility.

Texstyle Dye & Print Works, Clifton, N. J., and **Associated Dye & Print Works,** Paterson, N. J., have merged operations. New and unprocessed orders have been transferred to the Paterson plant, and some of the specialty machinery necessary to supplement the Associated equipment, has been moved to the Paterson location.

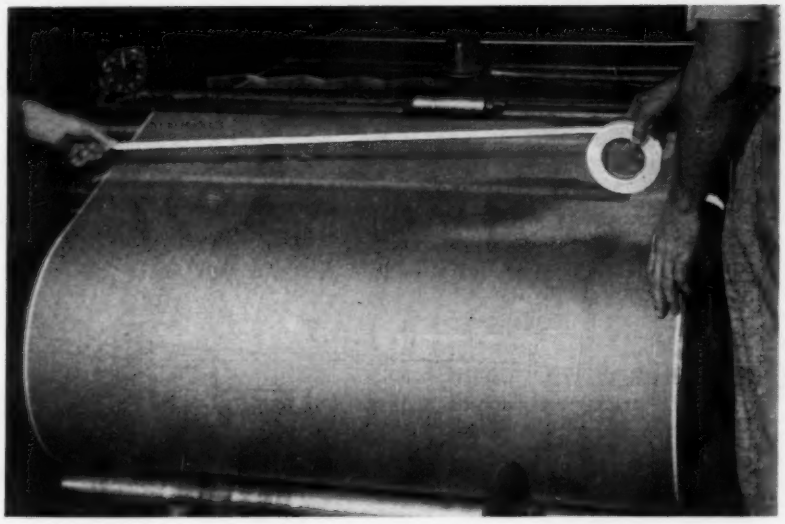
A gift of $10,000 was recently presented to the Auburn University development program by **Burlington Industries, Inc.** The textile firm has provided two annual scholarships of $500 each to Auburn textile school students. Checks totalling $3,000, representing personal pledges of 35 Auburn alumni who now work for Burlington, have been presented to the school, a like amount to be contributed by the Burlington Industries Foundation.

Dykeman, Loeb & Co., Inc., Philadelphia, Pa., recently celebrated its fiftieth year in the textile business.

The Pelzer (S. C.) upper plant of **The Kendall Co.** recently amassed over 3 million man-hours without a

Continued on page 177

these "sandwiches" on beams save time...



when they are made with TEXTILE TAPES FROM 3M

Beams are handled much more quickly and easily – and, even more important, downtime is reduced to an absolute minimum – when the ends are held with sandwiches of "Scotch" Brand Textile Tapes. One strip below, one strip above – every end is held in place. So, whether used at the warper or slasher, you're always assured complete yarn alignment on every beam. For more information, contact your 3M Representative or nearest "Scotch" Brand Tape Distributor . . . or write: 3M Co., 900 Bush Avenue, St. Paul 6, Minnesota, Dept. IBO-21.

SCOTCH BRAND

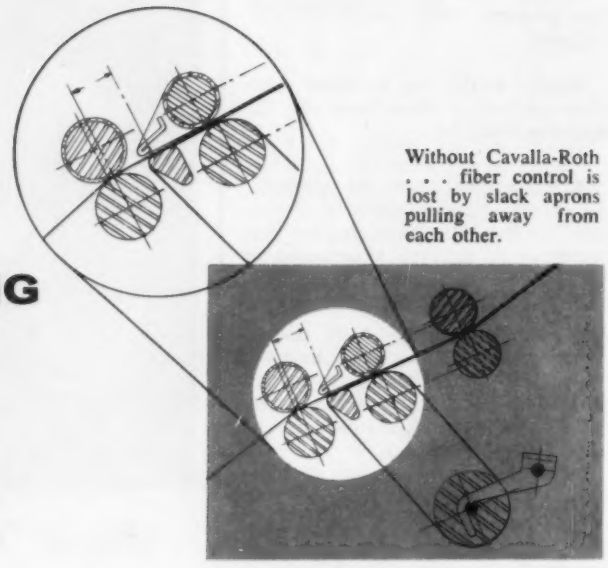
Minnesota Mining and Manufacturing Company

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

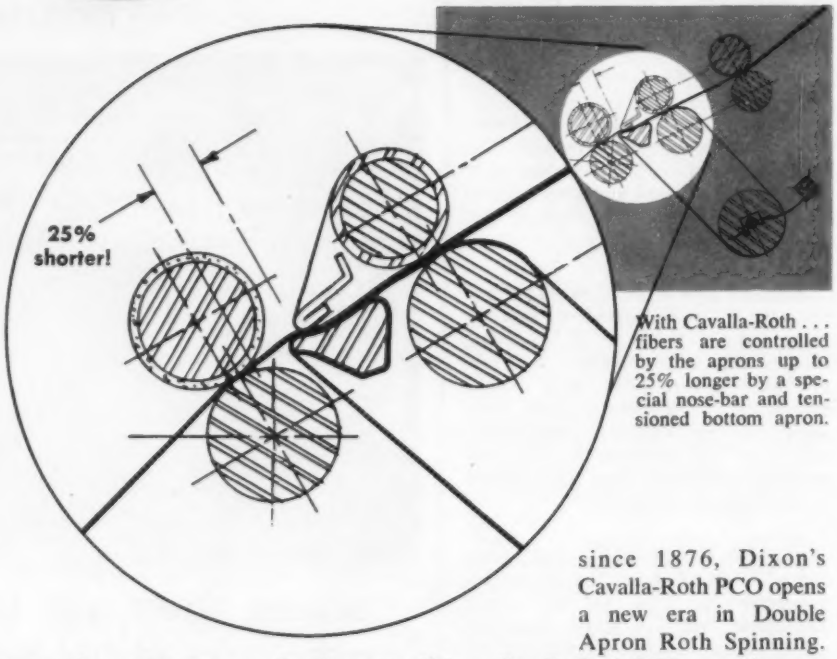
"SCOTCH" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.

ADVANCE YOUR DUO-ROTH® SPINNING WITH DIXON'S NEW CAVALLA-ROTH*

PCO



Without Cavalla-Roth . . . fiber control is lost by slack aprons pulling away from each other.



With Cavalla-Roth . . . fibers are controlled by the aprons up to 25% longer by a special nose-bar and tensioned bottom apron.

Now . . . with Dixon's Cavalla-Roth PCO (partial changeover) . . . mills using Duo-Roth Spinning can obtain greatly improved fiber evenness and strength with very little investment per spindle. Cavalla-Roth consists of a scientifically-shaped apron nose-bar coupled with a spring tightening system for the lower apron.

Cavalla-Roth PCO assures controlled spacing between top and bottom aprons at the point of fiber exit . . . reduces up to 25% the uncontrolled space between the nip of the aprons and the bite of the front rolls. Because the bottom apron is spring-tightened, Cavalla-Roth PCO also insures full contact between the two aprons along their entire surfaces — for better fiber control!

Cavalla-Roth PCO results in markedly improved yarn quality . . . sets a new high standard of comparison for the industry. Equipment requires but a few minutes for installation — and is very economical. Based on experience gained in manufacturing drafting changeovers since 1876, Dixon's Cavalla-Roth PCO opens a new era in Double Apron Roth Spinning. See for yourself how Cavalla-Roth PCO can give you more uniform, stronger, finer quality yarns . . . make an installation on your frames now!

For details write

Dixon Corporation — Bristol, Rhode Island

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For further information use Handy Return Card, Page 175

Blister-forming machine at left, operating in tandem with packaging machine at right, was designed by cooperation of American Thread's purchasing and other company departments with the supplier's engineers. A close-up view of the machine appears on the front cover.

Streamline purchasing for profit

How American Thread's purchasing department contributes to company success

by Emerson R. Naugle
General Purchasing Agent
The American Thread Co.

Exclusive

THE AMERICAN Thread Co.'s purchasing department is a streamlined organization, designed to be of maximum service to the company at minimum cost.

The organization and operation of this department have been continually studied over the past several years. During this period its total purchases, not including raw cotton, increased from $12,000,000 to over $15,000,000, but the number of personnel was reduced from 17 to 10. Despite the reduction in staff the department has considerably enlarged its scope of activity and its responsibilities.

As policies and procedures became solidified they were recorded in manual form. The company's objective in this area of operation is aptly summed up in the foreword to the Purchasing Department Manual, in which the company's president, E. W. Shaw, says in part:

> We are all aware of the need for maintaining the lowest possible cost of production consistent with the highest possible standards of quality. It is, with this objective in view, that the policies and procedures of the Purchasing Department are set forth in this Manual.
>
> The Purchasing Department is a Service Department to the other divisions of the company's operations and the personnel of this department function as staff members of our organization. They are responsible for

The American Thread Co.

■ The American Thread Co. manufactures a full line of home sewing thread, yarn, and other art needlework accessories. It is also the country's largest and most diversified manufacturer of industrial sewing threads fabricated from cotton and various synthetic fibers. In addition, it produces combed cotton sales yarns, as well as wool, synthetic, and blended yarns.

The company's plants are located at Milo, Me.; Willimantic, Conn.; Sevier, N. C.; Clover, S. C.; Tallapoosa, Ga.; and Dalton, Ga.

American Thread's headquarters are in New York City, with product distribution centers at Willimantic, Conn.; Bristol, Tenn.; and Turlock, Calif.; and sales offices in the principal cities of the U. S.

the purchase of several millions of dollars worth of materials, supplies and equipment annually at the lowest possible cost compatible with pre-determined quality standards.

Considerable time and thought have been given to the contents of this Manual in the expectation of increasing the effectiveness of the Purchasing Department in securing more consolidated purchases and expediting communication between mills, purchasing and the vendor. A great deal of product research and better control of the consumption of supply items are anticipated.

Organizing for Efficiency

The operations of the American Thread Co.'s purchasing department are partially decentralized in order to provide the greatest possible service to the manufacturing and finishing plants. The decision as to whether the purchase of a particular item or commodity, or groups of these, shall be handled on a centralized or decentralized basis lies with the general purchasing agent. In general, purchases are centralized when a price advantage can be obtained by combining multiplant requirements on either a spot or contract basis, or when such centralization will result in greater efficiency, lower costs, or otherwise work to the best interest of the company.

The general purchasing agent may, at his descretion, delegate purchasing responsibilities to persons outside of the purchasing department where such action will serve to expedite, develop, or conclude any transaction to a greater degree of satisfaction.

It is the policy of this department to develop and further the participation of local suppliers in furnishing our requirements, taking into consideration the quality of merchandise, price, delivery, and prior commitments to others.

A typical example of the application of these policies is the company's Milo, Me., plant, which is engaged entirely in the production of wood turnings. Its geographical location is at a considerable distance from other areas of the company's operations and its requirements relate almost solely to its own activities. The purchasing of supplies and materials necessary for the operation of this plant is delegated to the plant manager, who deals principally with local sources. The general purchasing department is, however, available for consultation and assistance involving special items or major equipment problems.

Purchasing for the Willimantic, Conn., plant has been established as a line function responsible to plant management for performance and to the general purchasing agent for policy and procedure. This department consists of a purchasing agent and a secretary-assistant, operating on an autonomous basis, referring special requirements, problems, and major acquisitions to the general purchasing department for consultation and assistance.

Purchasing for the company's manufacturing plants in Georgia and South Carolina and its finishing plant in North Carolina is centralized at Sevier, N. C., on a staff level. The organization consists of a purchasing agent, assistant purchasing agent, one secretary-assistant, and one typist. This department also operates on an autonomous basis, referring special requirements, problems, and major acquisitions to the general purchasing department for consultation and assistance. Plant managers in this area, if they so desire, may contact the general purchasing department for assistance in any problem.

Effective lines of communications are carefully maintained in both directions between these two divisional offices and the general purchasing department.

The general purchasing department is a staff function consisting of the general purchasing agent, who reports to the president of the company; an assistant purchasing agent; and two clerk assistants. It is at this point that policies and procedures are established and contracts negotiated for major commodities, supplies, and equipment.

Copies of all purchase orders written at all points and copies of invoices are received and reviewed daily. Purchase orders are filed both numerically and alphabetically, while invoices are coded and filed by commodity so as to be readily available for group analysis. Analysis of purchases is maintained on a continuing and rotating basis. In addition to reviewing and comparing purchases between plants, constant attention is focused toward consolidation and standardization. In effect, this is a continual program of value analysis.

In order to keep routine negotiations at a minimum, the general purchasing department establishes annual contracts for the greatest possible number of major commodities, negotiated once a year. Where applicable, local purchasing departments participate in these negotiations and joint decisions affecting the awarding of contracts are made. At present, approximately 35% of our total dollar volume comes within this category.

Local purchasing offices negotiate price agreements on both a semi-annual and an annual basis covering a large range of operating supplies such as electrical, plumbing, mill supplies, machine parts, and other items wherever possible.

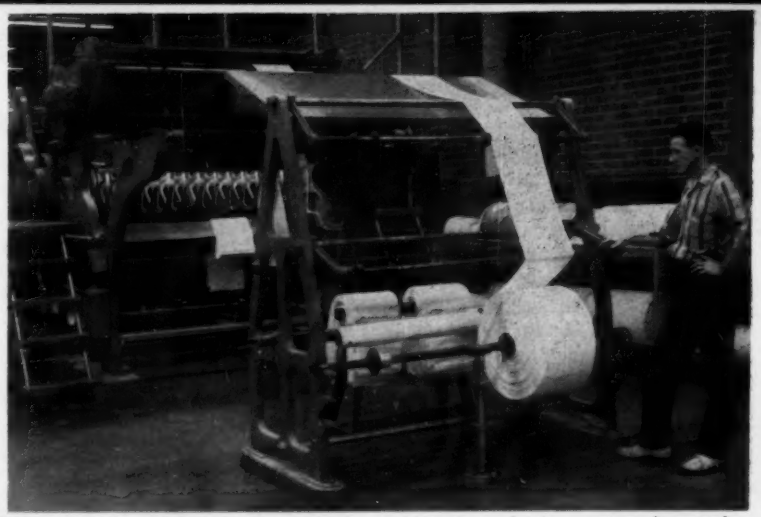
Another substantial time saver is the "group order" which is employed by both divisional and general purchasing departments. In the southern plants, group purchases are made twice yearly at varying times throughout the year on a bid basis, covering routine operating supplies such as paper products, steel strapping, spinning tape, cots, aprons, etc. The "group order" system is employed by the general purchasing department in procuring the company's requirements on a semi-annual basis of such items as envelopes, tags, continuous forms, stationery supplies, and other special requirements.

All materials purchased for the southern plants are set up on a purchase record system, which is maintained in such a manner that it eliminates the necessity for obtaining multitudinous quotations. As a requisition is received, the purchase record card is attached to it and the purchase order is written directly from the card. Purchase orders are posted to the card and invoices when received are also posted.

All invoices which agree with the terms and conditions written on the purchase order are passed for payment. In instances where there is disagreement between the purchase order and the invoice, the purchase record card is removed, attached to the invoice, and referred to the purchasing agent or his assistant for investigation, following which either an adjustment is obtained from the vendor or correction made to the card.

As a result of the foregoing procedures approximately 75% (in dollars) of normal requirements are prenegotiated for periods of three, six, and twelve months.

Another departure from the usual purchasing practice is the elimination of the "follow-up" procedure. It was found that careful control of order points and order quantities to provide sufficient lead time makes this possible with respect to most items. The cooperation of plant personnel in anticipating their requirements and wherever possible allowing for normal purchase time eliminated a large group of purchases from this time consuming clerical job. As a matter of policy, the responsibility for requesting the purchasing department to "follow up" on a purchase was vested in the requisitioner. With regard to special or emergency purchases, it is the responsibility of the individual purchasing agent to expedite and follow the transaction to conclusion.



This single-color printing machine replaces a hand operation, with a saving of more than $30,000 a year. Its adoption was initiated by the company's general purchasing department.

Cooperation and Communications

The Seeds of Profit. In addition to its primary concern with procurement, the general purchasing department works closely with sales, manufacturing, and merchandising through the operations department in the development of new products, package design, and improvement in manufacturing automation. In these areas, the department's accomplishments have resulted through close cooperation and open communications with the departments involved on one hand, and on the other hand through development of full knowledge of available sources of supply and taking advantage of their experience and facilities in the fields of engineering and design.

Too often in problems of this type, companies are prone to call in a single expert with respect to a particular problem and accept his recommendations as final. But in working with more than one source of supply the opinions of many persons are involved in the solution to the problem, and the number of ideas to be considered for adoption are limited only by the number of suppliers involved and the extent of their staffs.

It might be of interest to relate examples of the results achieved through this form of cooperative effort.

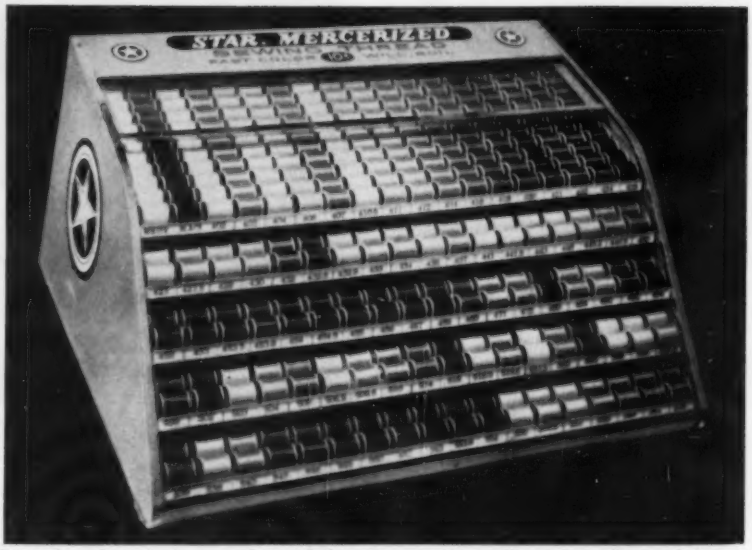
Vendors Revitalize Display. The merchandising department wanted an improvement in a point-of-purchase display which was considered to be outmoded. In consultation with the purchasing department, basic limitations were established, such as maximum and minimum length, width, and height; the quantity of merchandise to be displayed; the number of colors of the product; and the general functional requirements. The general purchasing department then called in two suppliers working in sheet metal, one working in wood, one specializing in plastic, and another specializing in wire construction. They were requested to submit sketches of their ideas for an improved type of display, incorporating the particular medium in which they worked or a combination of several.

Within a period of two weeks, fourteen individual designs were submitted for review by the merchandising department. Each of the three manufacturers then resubmitted his most promising model, from which the final design was selected and put into production, after improvements and modifications were made. This display has since received awards in several display competitions.

The cost of the display has since

its inception been checked through competitive bidding, and the original supplier has retained the business.

Packaging for a New Market. One of our sales divisions advised the general purchasing department that it was considering entering certain of its products in an area of sales which was new to the company, and requested that a study be made to determine the most satisfactory and economical means of packaging for this new market. The sales division got samples of competitive merchandise which had appeared in this market and turned them over to the general purchasing department. These products were packaged in variety of ways: cellophane bags with cardboard headers, polyethylene bags with headers, skin packaging, transparent windowed cartons, and blister packages.



Point-of-purchase display was designed through cooperative efforts of suppliers and American Thread Co.'s purchasing and merchandising departments; it has received several awards.

From technical representatives of the packaging material producers, a listing was developed of machinery manufacturers having equipment available for the production of each of the styles of packages. This ranged from hand operated to fully automatic equipment. Using production figures obtained from sales estimates and working closely with the operations department, the purchasing department estimated equipment, materials, and labor costs for each of the methods under consideration. A complete report was then submitted to management, with specific recommendations on the type of package to be adopted.

It was recommended that in order to provide the lowest total cost for these new products, and to provide complete versatility, that fully automatic blister forming and sealing equipment be purchased. The machinery purchased consisted of a blister forming machine designed to produce blisters continuously from a web, producing several blisters across the web and slitting them lengthwise at the doffing end. Blisters may be delivered in continuous strips of any length or guillotine-cut into individual blisters for direct delivery to the sealing machine. In other words, the forming unit may be operated separately or in tandem with the packaging machine, making a complete in-line operation when desirable.

The packaging or sealing machine consists of five segmented belts operating in unison into which the formed blisters are placed; the product is loaded into the blisters either by hand or automatically. The coated cards are automatically applied to the blisters, tacked, sealed, and discharged from the machine.

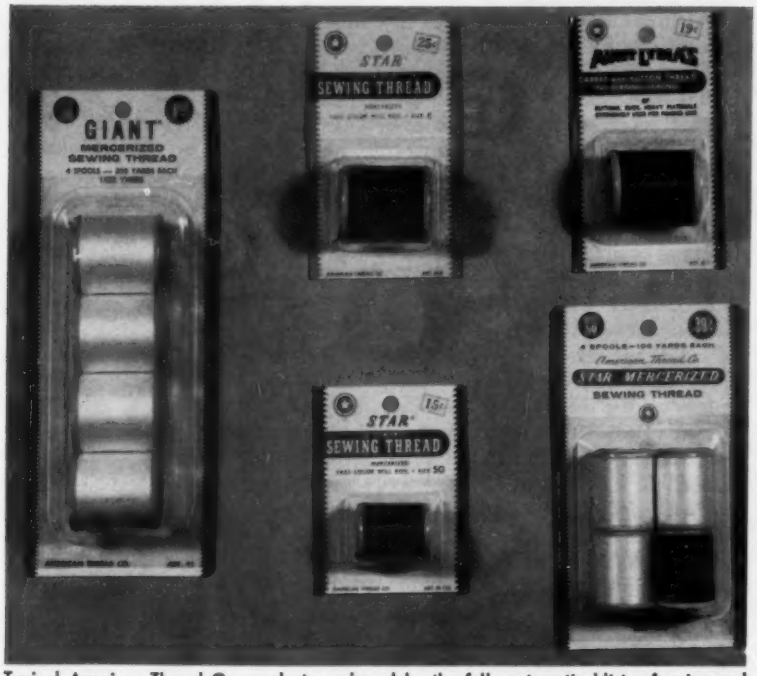
The principal reason for selecting this particular machinery for the job was the possibility of complete automation. Another deciding factor was the versatility of the equipment, which would make it possible to add additional products on a semi-automatic basis at any future date. The capacity of the equipment is more than sufficient to take care of current requirements. The general purchasing department is continually searching for manufacturers in textile and other fields interested in contract packaging in order to utilize the present excess capacity of this equipment.

Since it was expected that production of the new line of merchandise would ultimately achieve substantial proportions, it was felt desirable to make the equipment as automatic as possible. The general purchasing department arranged a conference with the company's operations department, the machinery department division, and the machinery manufacturer's engineers. It was decided that the basic machinery up to and including the escapments for automatic feeding could best be manufactured by the machine maker. The final design of this escapment was the result of the joint efforts of the machinery manufacturer's engineers and the company's engineers. The responsibility for the manufacture of the automatic feeding mechanism was left with the company's machinery development division, who designed and manufactured the equipment.

During the period of time the machinery was under construction, the purchasing department, working in conjunction with the engineering department of the acetate producer, developed blister styles and packages for each of the items in the line.

Art work for cards was obtained from the company's advertising department, and the purchasing department then arranged a meeting between the printer and the pyroxylin coating manufacturer to develop a satisfactory coating for the sealing of these cards to the blisters. At the same time the box sizes and styles were developed with the box supplier.

Before the start of production, sufficient samples of each item had been produced to enable the opera-



Typical American Thread Co. products packaged by the fully automatic blister forming and sealing equipment shown on this month's front cover and on the first page of this article.

tions department to conduct shipping tests and prove out the satisfactoriness of the packages.

Hand Operation Is Automated. For many years, the company operated a cloth stamping division in New York City—a time consuming and costly operation. Various types of fabrics such as linen crash, osnaburg, burlap, etc., were purchased in either roll form or continuous flat fold. As certain numbers were required, goods assigned to this production were unrolled on long, flat tables by hand, the edges lined up, and after several layers of cloth had been accumulated, each 30 to 40 ft long, they were hand-cut into the proper lengths, evenly stacked, and moved along to a hand stamping operation. The stamping was accomplished by placing each piece individually in the bottom of a frame and lowering a screen-type pattern over the piece. The ink was applied by means of a squeegee moved by hand in a right-to-left and reverse motion across the screen, thus applying the design to the cloth.

Over a period of three years, the general purchasing department investigated many alternative methods and equipment to accomplish this operation, but without success. Then the company's general purchasing agent had occasion to visit a bag manufacturing plant, and in the course of this visit observed a relatively old machine which was designed for printing one-color sugar bags. The manufacturer of this machine was contacted and it was learned that these cloth printing machines were no longer much in demand, since cloth bags had been replaced by other types of packaging. The manufacturer had diversified his operations into producing machines primarily for the printing of veneers, corrugated board, metal, and other items. The basic principles of the machinery had, however, been maintained.

Working in conjunction with the merchandising department, an analysis of the problem was made and it was determined that cloth widths from 16″ to 60″ were cut into some 34 different sizes and printed with 300 different designs.

A preliminary proposal was obtained from the machinery manufacturer, including actual printed samples, and it was concluded that the idea had considerable promise. The quality of printing was superior to that achieved by the old method.

A committee was then formed, headed by the general purchasing agent and comprised of one representative each from the merchandising, manufacturing, operations, and machinery development departments. The necessary equipment was ultimately purchased at a cost of $17,000 and placed in operation with a resulting saving to the company in excess of $30,000 a year.

The efficiency of the new method of operation, which is in the company's Sevier, N. C., plant is such that the entire line of printed cloth can be produced in a few months as compared to a former year-round operation. The general purchasing department is currently surveying products in other fields to locate customers for whom contract cutting or one-color printing could be performed to take up the balance of this production time.

Charting Course to Profits. The purchasing department of any company, large or small, is probably in the best position of any division of that company to contribute to its success. To achieve maximum results, the department must be organized in such a manner as to conserve the time of its senior members, and thereby allow the maximum amount of time possible for devotion to investigatory matters.

The purchasing department must develop a knowledge of all phases of the company's operations. It must seek out weak spots in areas in which there are possibilities for improvements in quality and reductions in cost, through material substitutions and more efficient methods of production.

These things a purchasing department cannot accomplish by itself. It must have the wholehearted support of the manufacturing, engineering, and sales divisions. It must maintain open communication with all divisions of its own company, as well as with its suppliers. It must be able to develop a keen sense of recognition of something of value to the company and pass this information along to the proper persons in the organization, with sufficient detail to make an evaluation possible.

The DYER looks at the SALESMAN

by a dyer

Exclusive

MANY SPEECHES have been made and many articles have been written by salesmen and demonstrators about their products and the methods of application of these products. While few have much to say about the men who apply the products, it is understood that someone must do this, and do it well, or the product will fail in its purpose.

The general tone of an address or article will give a fair idea as to what the author thinks of the practical man, whether chemist, dyer, or finisher. But what does the practical man think of the salesman? That may interest a few people and prove of mutual benefit.

It is my privilege to buy dyestuffs in fairly large quantities. Naturally I meet many salesmen at regular intervals. Our place of business is a little off the beaten track and there is not another dyer in the same line for miles. So it is a pleasure for me to meet well informed salesmen as they serve to keep me in touch with the profession in a more personal way than is possible through trade publications.

About seventy per cent of our business goes to three salesmen, while the other thirty per cent is divided among a dozen more. Now, there is not so great a difference in quality or value of products between the suppliers of dyestuffs as this would indicate. So there must be other factors and we will try to discover what they are.

The Man and the Product. It seems superfluous in these days of super-salesmanship to say that a man should know the products which he sells. And he should know which of these products might be of interest to the man he is visiting. Yet, Mr. Ripley, there is a salesman who calls upon me once a month at the cost of considerable effort, and who doesn't know the difference between an acid color and a direct, but who is willing to learn at my expense. He has been selling chemicals to the paper trade for years and has taken on the dyestuffs as a sideline.

I give him ten to twenty minutes each time he calls, treat him courteously, for he is a fine fellow, but as yet have made no purchases. He expects me to have a list of colors we need, ready for his perusal, but we do not do business that way.

Over a period of years we have had time to test many hundreds of dyestuffs. When we buy a direct yellow it is a good bet that we are buying the best value on the market. We don't need to ask where it can be bought to best advantage, and the fellow who drops in to sell dyestuffs just as a fruit peddler calls around with the latest crop has little chance of success.

In happy contrast is the fellow who represents a large company and who knows exactly where his company has the jump on the other fellow in value and service. He has never sent me a sample to be tested which has been of no interest. Not all have been outstanding and only a few have brought him more business, but his suggestions are so simple and reliable that his samples get immediate attention.

My work is exacting and my time well occupied. There are times when it is difficult to leave the dyehouse to see a salesman. He seems to realize this and always has the latest information at the tip of his tongue. As an example, take the case of his sulfonated fatty alcohol product. Some time back we tested this against the one we had used for years, and reported it about the same quality and value, so we saw no advantage in changing. He accepted our report without the usual claim that his was supreme. (Any dyer will agree that there is something fine and honest about a man who doesn't claim to have the greatest penetrant ever invented.) On his last visit, which did not last ten minutes, he told of a big reduction in price. We tested again in a small way and felt justified in ordering a trial keg for practical comparison. There is a good chance that he will make a big sale, and one which will repeat itself.

Now, in taking up a little of my time, he has managed to be businesslike without being abrupt. We manage to mention the latest political turn or the baseball situation without overdoing it. He doesn't feel that his calling necessitates his treating me to free lunch and he knows I agree in this. So we get along.

When He Loses the Business. Once in a while it happens that a salesman presents a new value in dyes which takes a certain line away from the other fellow. This is to be expected, but it is never pleasant for the dyer to tell the salesman with whom he has friendly relations that he is taking

his orders elsewhere. Whenever this becomes necessary, money value dyeings are shown him to let him see why he is losing out. We like to think we are fair in this, and it is not pleasant to have the salesman get the impression that he may not have had a square deal.

The attitude of the salesman at such a time can help or hurt him with the customer. The good salesman will accept our decision with as much grace as possible and take the matter up with his office to see why they are out of line. The poorer type—and we meet him—suggests that, out of friendship, we should let him keep the business. He does not seem to realize that we are no more friendly with him than with his competitors and this argument may create a bad impression. And very often he is the man who would sell us nothing even if we did business on a basis of friendship.

Service—Sudden and Otherwise. We all know that quick service is a factor to the dyer. We attempt to foresee what colors will be needed and to keep well supplied with the necessary dyes. Occasionally we are caught napping and need something in a hurry. We cannot wait for a shipment to arrive. Knowing this, most firms keep dyes on hand for such service.

One salesman, who represents an importer, expects to keep on hand only what we guarantee to take. This in spite of the fact that, in over six years of business with him, we have not left him holding the bag. When I buy a shirt, I don't expect to tell the haberdasher to put another like it in stock, for I'll be around again in a month or so.

Some salesmen are expert chemists, or dyers, or both. These men often can suggest methods of application of their products which may prove of value. We appreciate this and discuss with them problems which crop up from time to time. Others know only what their little manual tells them, and beyond that they are helpless. Dyers feel that the salesman should know as much about his product as the man who uses it.

Some time back I mentioned to a salesman an aritcle which had appeared in a textile publication and which I wished to review. Unfortunately the issue had been lost or mislaid. A week later I was pleasantly surprised to get a typewritten copy of the article in question. Such service, a bit out of the ordinary, is appreciated and will do more to make a good impression than all the calendars, diaries, or trick pencils ever invented.

Lest I seem too critical, let me say that the greater number of salesmen are fine follows, well informed, and agreeable, and it is a pleasure to learn that they are calling. The rare bird who has in back of him a well equipped laboratory, a good shipping department, and who makes the most of these advantages is the answer to a dyer's prayer. May his flock increase!

Sabotaged by the Home Office. It would be unfair to hold the salesman responsible for things in his organization over which he has no control. But, because he is the man who meets the customer, he should be capable of explaining the position taken by his company. As an example: When a dyer has been using a dyestuff—say Sunfastopol Blue X at $1.60 per pound —and orders another shipment, he doesn't like to be notified that the new delivery will be Sunfastopol Blue LX or XL at $2.00 per pound. It may be true that the new product is the same shade and strength and faster to light, but the older type may have been quite satisfactory and the dyer cannot pass the added cost to the consumer. It takes a good salesman to laugh that off.

Salesmen should keep in close touch with their shipping departments. A good product may have its excellence dimmed by poor packing, poor delivery, or improper labeling. No dyer likes to receive paste when he has ordered powder, yet this happens. Size of packages may seem unimportant, yet be a factor in pleasing the customer. When an order is placed for 500 lb of dye, the dyehouse expects to receive a single barrel, not three or four kegs.

Agreed, this is a minor detail. The dyer (myself) is too finicky. But so are most dyers.

The SALESMAN looks at the DYER

by a salesman

Exclusive

WHEN I was asked to read the article written by a dyer and to answer it in a companion article I felt somewhat in a quandary. The dyer's discourse proved to be sound, and set forth clearly and with every evidence of intended fairness a dyer's viewpoint of this broad topic.

No one can reasonably disagree with his desires as a consumer of

dyestuffs and his views on the function of the visiting salesman. Nevertheless if I am to speak for the genus "Dye Salesman" there are some points on which the fraternity might like to hear a few words of explanation—possibly of defense and of encouragement.

Unfortunately one meets in every walk of life individuals who are miscast—whether they be preachers who should be merchants, musicians of limited talent who might be far happier in some craft, and even salesmen who lack the essential gifts usually associated with their calling!

What are the attributes of a good salesman? I am afraid that a listing of the views of any considerable group of buyers on this subject would prove somewhat staggering, and it is utterly impossible for any normal individual to meet all their specifications. For the purpose of this discussion I will omit any consideration of the hapless salesman who is obviously out of place in this calling. If his customers have noticed his inadequacy one can be reasonably certain that his employer is also aware of the fact and is permitting him to continue his work either because of extenuating circumstances or as a "stop-gap" pending other arrangements. We admit that mistakes in the selection of a salesman for a given territory are costly but they are not made intentionally.

No Jack-of-all-Trades. In sales territories covering many thousand square miles, in which numerous industries are represented but where the number of worthwhile accounts is small and traveling distances between them are large, it is physically impossible to assign a salesman who is technically skilled in all the industries he must contact. Usually a man is selected who has a good working knowledge of the more important types of dye application he will encounter and his home office will try to supplement his lack of understanding of other trade requirements by correspondence.

His traveling reports on a mill problem will set his company's technical facilities in operation. If a solution is obtainable by laboratory work, a prompt report to the mill usually serves the purpose very nicely. Should the problem involve plant trials, a specialist's services are available without cost.

Obviously the conditions encountered in smaller territories, where large mills are situated more compactly and where a few industries predominate, are entirely different. In such cases the manufacturer assigns a salesman who is well versed in the problems he will encounter and in the majority of cases he will be able to make constructive suggestions on the spot, or if necessary spend a day or two at the mill supervising corrective trials which his experience or that of his technical staff deem proper.

Salesman Meets Iron Curtain. In his travels the salesman visits many types of mills and a variety of situations, to all of which he tries to adapt himself. Unfortunately he is not always permitted to contact the dyer direct, so it is difficult for him to acquire that intimate knowledge of his customer's needs which Mr. Dyer quite rightly classes as essential. Often he must interview a purchasing agent or a mill executive whose major interest lies in quotations and nontechnical details. To be sure, price reductions are gratefully received but discussions on new products or important developments are given little heed and fail to reach the dyer, so the salesman's effectiveness is blunted.

A direct contact between dyer and salesman is the ideal arrangement and is feasible in the average mill. If the salesman merits the dyer's confidence much will be gained by a frank discussion of the day's problems. A pleasant reception, a constructive criticism, or invitation to assist in the solution of some difficulty will usually spur the salesman to his utmost efforts to be helpful.

An order is a wonderful stimulant—whether it be for an established color or for a trial of something new! It is understood that the dyer does not always have the time for an extended interview but we who travel for hours to see him appreciate his courtesy if he steps out only for a moment to permit a "Hello," a hand shake, and "All's clear."

Good Guys Sometimes Lose. Most seasoned salesmen are good losers. In these days of keen competition they receive a thorough drilling in this art. We have no sympathy for the hard loser or the chronic "cry baby," but something can be said about switching business from one house to another without giving the losing salesman a really satisfying explanation for the change. He will be expected to explain his loss of business to the home office and will be criticized for lack of efficiency if he cannot convince his superior that the customer benefited by the change.

Consider for a moment the case of a company which has a widespread market for a given product and is satisfying its customers with prompt deliveries of correctly standardized goods at the market price. You can understand the incredulity of the salesman as well as his employer over an isolated report that in a certain mill a competitor is offering better value. If convincing proof of the situation is submitted—such as dyeings, strike-offs, or, preferably, a sample of the competitive offering—something of mutual benefit may result. To be sure, the salesman cannot demand all this information but if he is a likeable fellow representing a company that always strives to serve, the dyer can understand why he looks for a helping hand and his disappointment over not getting it.

Ours is not a business in which a brilliant sales talk or a spectacular offering begets repeat orders. Sound business is built on a foundation of years of performance. Good will has a recognized place in business and represents the gain which is not fully discharged by the payment of bills for goods received.

Stocking Aardvarks and Zebras. The carrying in stock of colors which are in active demand is the alpha of sales service. When it comes to unusual products of limited distribution the salesman is expected to make every effort to determine his customer's probable requirements and this is another good reason why the dyer should take him into his confidence. If he does not know for what purpose an article which is bought at wide

intervals is used, nor its significance to his customer, he cannot properly budget his requirements.

Naturally the manufacture and stocking of poor selling items is stopped unless some very good reason is presented for continuing an unprofitable venture. This is sound business, whether we think in terms of automobiles, candlesticks, or percales. The dye manufacturer must watch his inventory more closely than most industries —particularly if it includes many thousands of items the obsolescence of any considerable portion of which would constitute a serious financial loss.

We may well ask, "Does the house that obligingly carries stocks of unusual colors for which there are irregular and frequently unprofitable sales, get the thanks of its patrons in the form of business in bulk items which are competitive?" Very often such orders are considered as their own reward. It is the volume business, the pounds of dyes rather than their per-pound invoice value, which carries the manufacturers' overhead.

A large portion of supply ordering is done today over the telephone or by wire and usually immediate shipment is requested. The dyer who does not personally order colors does not always know how his requisitions are transmitted and how much time may be lost before they go out. When an order marked "Rush" is received by a supplier, his first obligation is to get the goods off as fast as possible.

If he has only an hour to catch a particular train or truck, repacking is out of the question, and two 250-pound barrels may have to be shipped against an order for a 500-pound barrel. In the case of the paste products, hours are consumed in repacking to avoid the hazards involved in not stirring the container perfectly so as to obtain uniformity.

The average salesman insists that his customer's orders be executed to the letter and his shipping department is anxious to cooperate. If there is an occasional exception it is usually found on investigation to be caused by a misunderstanding or by circumstances beyond anyone's control. Rarely is it due to indifference.

The dyer does not always appreciate that his preference as to container size may be somewhat exceptional and that special repacking is necessary to give him what he wants. "Fine," you say, "that is the service I expect." But have you or your purchasing agent allowed sufficient time to execute your wishes? How about the colors which cannot be repacked in a warehouse and of which factory packed containers of the size on order are not available at the moment? You would not want your shipment delayed several days on this account.

Look into any large dye concern's warehouse and you will see a staggering array of packages in all sizes in anticipation of rush orders. If it happens that your size is not in stock, isn't it the exception rather than the rule? I am not excusing the delivery of three or four containers where one is ordered, but two should be tolerated.

I hope that my comments will be accepted as supplementary to Mr. Dyer's, rather than at variance. He is quite right even in his protests against the altering of current dye standards! Changes for the better are signs of progress and in order to keep a line of dyes in the van of modern development an individual type sometimes has to be retired in favor of its perfected replacement. Momentary inconvenience to all—no doubt about it —but better satisfaction in the long run!

Farm problem *(from page 31)*

or not. Certainly many projects involving vast quantities of steel might be set in motion by cheaper steel, and abandoned entirely on account of high-priced steel. There has to be some sort of balance between the different segments of an economy. A lack of such balance led to the terrible depression which began in 1929, when the highly unionized building trades workmen were getting around $33 to $34 a day and textile workers were making $1.00 to $1.50 a day, whether they belonged to unions or not.

Any such lopsided economy as this can not support its own weight, and we are developing this same kind of lopsidedness today, which has resulted in a general slowing down of business.

The big labor moguls seem to have this country by its economic throat, and they seem to be more powerful than the government itself because whenever the government has endeavored to meddle in a labor dispute, labor seems always to have got the best of the argument. The only people who have been able to deal successfully with these big labor monopolies are independent operators who have slugged it out with no intervention by government.

Our only hope seems to lie in an awakened interest of the general public, and a better realization of what is being done to us by constantly cutting the value of our money for the benefit of a very small fraction of the employed people of the United States. That maybe 5 to 10 per cent of these employed people can profit abnormally, the other 90 to 95 per cent must foot the bill. This bill is presented not only in the form of higher prices for practically everything we buy, but in the form of more government debt and more inflation which will continue to depreciate the value of our money.

We had a little recession in 1957 and the federal government went $13 billion in the hole trying to stave it off. This year the federal government has a slight surplus, but the current recession will probably soon force an increase in the national debt again and the inflation that goes with this.

The only solution to a great many of our economic problems is to restore the competition which has been eliminated by the big labor monopolies, so that the price of wages, like the price of everything else, can be regulated with some regard to the value of the services rendered, instead of being determined by monopolistic control of industry.

THERE ARE about 240,000 trucks on long-term lease to manufacturers, distributors, and retailers. By contrast, there are about 6,800,000 trucks owned by American industry. In the textile industry, the proportions are 1,000 leased and about 22,000 company-owned. This compares to 5,000 leased autos, more than one-third of the textile industry's auto fleet.

The major reason for the small number of leased trucks is that, until recently, truck leasing was not available without expensive maintenance provisions. That is to say, a corporation could not lease a fleet of trucks without paying for full maintenance care on these trucks—whether the corporation wanted the full maintenance or not. As a result, truck leasing by industry has lagged far behind auto fleet leasing, mainly because auto fleets are available on a non-maintenance lease basis, as well as with full maintenance.

The news that a few major leasing companies will now offer *non*-maintenance, long-term truck leasing, will make a vast difference to many businesses. The following interview with an expert in this field, describes the new trends.

What's the drawback to truck ownership?

There is no drawback. Truck ownership is a fine luxury which many companies enjoy—whether they can afford it or not. The fact is, ownership of a truck fleet takes liquid capital out of a business and freezes the cash in fixed assets. Not many companies can afford to do this—but they do.

As every businessman knows, a company's earnings are determined by the amount of the company's liquid working capital and the number of times within the year that this working capital is turned over profitably. A successful business tries to keep its working capital active in current operations—and not tied up in fixed assets.

Normally, how much does working capital earn?

Depending on the industry, profits on liquid working capital range from 15 to 90 per cent before taxes. This means 7 to 45 per cent after corporate taxes.

The average textile firm earns an average profit before taxes of 19 per cent on working capital. Every dollar of working capital currently employed in the business brings back 19¢ profit before taxes. Which means that if a company takes that dollar out of working capital and freezes it in fixed assets (for example, a truck fleet), the company is reducing its annual profit by 19¢. If the company uses $100,000 of its working capital to purchase a 25-truck fleet (to use round numbers), the company is giving up before-tax profits of $19,000 in the first year alone—because that is what the working capital could earn if left working in the business.

It is for that reason that truck fleet ownership is a luxury. Actually, few of the companies which own their fleets can afford the luxury. The obvious solution would be for a company to lease a truck fleet. In this way the company could have the benefit of conserving its own working capital, and at the same time have a fleet under its own control to do its hauling. Unfortunately, this has not been true in the past. Until recently, no company could lease a truck fleet without full maintenance provisions, which often made leasing costs too high for most companies.

What kinds of truck leasing plans are now available?

There are two different plans:

A. The Finance Lease—Under this plan a company leases its trucks and nothing more. This is new to the truck leasing field. Under this plan, companies are not obligated to pay for any services other than leasing of the trucks.

B. The Full Maintenance Lease—This is the plan which was typical of leasing trucks up to now. Under this plan the leasing company provides trucks, garages, maintenance repairs, cleans the trucks—does everything but supply the driver.

Under both types of leases, trucks are engineered for the job by the leasing companies.

What are the advantages and disadvantages of the Finance Lease plan?

The Finance Lease is new to trucking and is offered only by major truck leasing organizations. The Finance Lease is a lease of trucks only, and is not encumbered by maintenance or service charges.

In the Finance Lease plan, the truck fleet is purchased by the leasing company, delivered to where it will be used, and leased for a term approximating the estimated life of the equipment. For light trucks, 40 months is typical; for heavy trucks, tractors, and trailers, longer terms are usual.

The basic advantage of the Finance Lease is that it offers the lessee the main advantage of leasing—conservation of working capital—while leaving him free to obtain economy in operation and to provide himself with the maintenance and service plan best suited to his fleet.

Thus, companies which already have facilities for garaging trucks, or parking lots, can obtain the benefit of leasing without wasting their present facilities. Other companies are able to service their truck fleets with maximum economy by using a local truck agency service, such as Chevrolet agencies for Chevrolet trucks, etc. A company is thus able to conserve its working capital by leasing its trucks, but is not compelled to pay a leasing company for maintenance services which may be obtained at lower costs, or may be unnecessary.

Where piggyback equipment is concerned, companies can lease their trailers, use the special low rates available to private carriers, and move their products by rail, thus effecting further economies.

Another advantage of the Finance Lease plan is that leasing charges are based on the fleet discount price of the trucks, and not on the retail list price. Thus the lessee obtains the benefit of the leasing company's ability to purchase vehicles at the lowest possible price. Even with cancellation,

Mill trucks: Lease? Buy?

Mills with their own truck fleets should investigate the new non-maintenance lease

by A. J. Schoen
President
Wheels, Inc.

Exclusive

the lessee pays only the fleet discount price.

However, the Finance Lease plan offers *no* advantages for companies in the following situations: where company trucks operate over punishing terrain with utmost wear-and-tear; or where perishable products are moved by truck, and extra trucks must be available for instantaneous emergency; or where *all* truck expenses (including maintenance and repair) must be budgeted in advance. In these three special situations, the Full Maintenance Lease is more advantageous than any other.

The Finance Lease plan is of special value to companies with the following types of fleet operations:

a. For a company which has truck parking facilities and can save money by using local maintenance and repair organizations.

b. For company service trucks or service industry trucks which normally do not get very rough treatment.

c. For over-the-road trucking operations based on regional plants or warehouses located so that traffic management can avoid deadhead trips longer than one day.

d. For companies whose freight has large bulk but little weight, and thus is expensive to ship by common carrier.

e. For companies whose trucks are engaged in long hauls and hence not available for nightly servicing at a central depot.

(An objective examination of the whole problem of truck leasing, including comparative cost charts, has been published by the Foundation for Management Research. It is entitled, "Truck Fleets: Lease or Buy? An Analysis of Truck Transportation Costs." Single copies are available free to executives who write to the Foundation at 121 W. Adams St., Chicago 3, Ill.)

What are the advantages and disadvantages of the Maintenance Lease plan?

For companies which need the particular benefits available under maintenance leasing, there is nothing finer. For example, under the Full Maintenance Lease, the leasing company provides the trucks and garages, maintains, services, and repairs vehicles, supplies replacement vehicles in the event of breakdowns, etc. The lease is for the estimated life of the equipment. The company supplies only the drivers and traffic manager to control fleet operations.

The advantages of this lease plan are:

a. Company capital is conserved for other uses.

b. The headaches of maintenance, replacement, and repairs are transferred to the leasing company.

c. Quick additions or substitutions of trucks to the fleet in emergencies are part of the lease plan. Normally, the leasing company provides one standby truck for every 10 trucks in service. This tends to justify the extremely high charge for maintenance leasing.

The Full Maintenance Lease has proved most economical and efficient for companies which have a large number of trucks operating in a restricted local area and which need daily if not hourly maintenance service. Such companies as dairies, breweries, producers or distributors of all sorts of perishables, need immediate maintenance and stand-by service.

Availability of round-the-clock maintenance service is vital in some industries—but why should a producer of textiles, or the vast gamut of non-perishable commodities, pay for such emergency maintenance and stand-by service, if the company doesn't need it? Only a small percentage of companies actually need such daily maintenance and emergency stand-by services.

The Full Maintenance Lease has four major advantages, as we have seen above. However, there are three disadvantages which have limited its growth:

a. The cost per mile, considering all fixed and operational costs, is 15 to 20 per cent higher under a Maintenance Lease than under a non-maintenance (Finance Lease) lease. Since lessees are apt to misuse trucks under a Maintenance Lease, the leasing company must add a large margin for maintenance, repairs and service—whether they are needed or not.

b. The cancellation clause which, if used, forces the lessee to purchase the trucks, paying the full difference between the original list price of the vehicles and

the (straight line) depreciated value.

c. In the instances where drivers must report first to the leasing company's garage for their vehicles and then to their company plant for goods, the cost of portal-to-portal pay is wasteful and expensive.

When is a company-owned truck fleet desirable?

A company-owned fleet is the most common solution to a company's transportation problem, judging from the fact that 62 per cent of all the trucks on the road are company-owned. The remainder are either owned by common carriers, contract carriers, railroads, government, farmers, or are leased. The primary virtue of company ownership of truck fleets is presumed to be lower cost. But what most companies overlook is the cost of capital invested in their truck fleets.

As we have seen, when a textile manufacturer takes $100,000 out of working capital and freezes it in a 25-truck fleet, this company is sacrificing $19,000 in before-tax profits the first year alone. When this sum is added to the other costs of company-owned fleet operation, then company fleets are often the most expensive form of transportation.

There are only two kinds of situations where there is justification for use of company capital in acquiring a truck fleet: (a) the company has more liquid working capital than it needs in the business, and can spare the cash for trucks; (b) the company's return on working capital is so low that it does not pay to lease in order to obtain additional capital.

However, where a company can use not only its present working capital but additional working capital in the business, it would be foolish to freeze part of the company's cash in a truck fleet. Truck fleets are available without investment of company capital. They can be leased, as we have seen. True, up until now truck fleets could not be leased without expensive Full Maintenance. But this is now changed. The Finance Lease makes truck fleets available without any extra trimmings.

Suppose a company didn't want to own or lease its trucks, are there other alternatives?

The first alternative is the common carrier; the second alternative is the contract carrier. By using either one, a manufacturer takes himself out of the transportation business.

The use of common carriers is economical in these situations:

a. Where distances involved are so great that deadheading (a return trip with an empty truck) takes longer than one day.

b. Where a company's merchandise commands a low rate from common carriers.

c. Where the company's trucking volume at any one time is too small to justify use of owned or leased trucks.

These conditions apply to many smaller firms, as is witnessed by the fact that the common carriers employ fewer than 10 per cent of the trucks on the road, but move more than 30 per cent of the goods carried in trucks.

The disadvantages of common carriers are three: Their use is quite expensive; they may not be able to do the job desired; and by use of common carriers, a corporation loses control over delivery of its goods. However, common carriers solve the transportation problems for many companies.

Contract carriers are somewhat different. More or less, they charge the same rate as common carriers, and they can give better service in a small territory. For example, a manufacturer may have 100 delivery points in a limited area or state. A contract carrier would charge much lower rates to make all these stops than would a common carrier. A contract carrier is very close to its client manufacturers and works only for a limited number of clients.

But the contract carrier is limited in the variety of commodities it can carry, and is hobbled in its rate-making. A contract carrier would be economical to use under certain special conditions:

a. The contract carrier has a permit to carry the specific commodity which the manufacturer wants to ship.

b. There is no long-haul merchandise which requires interline trans-shipping.

c. The manufacturer requires a large number of delivery stops within a limited territory.

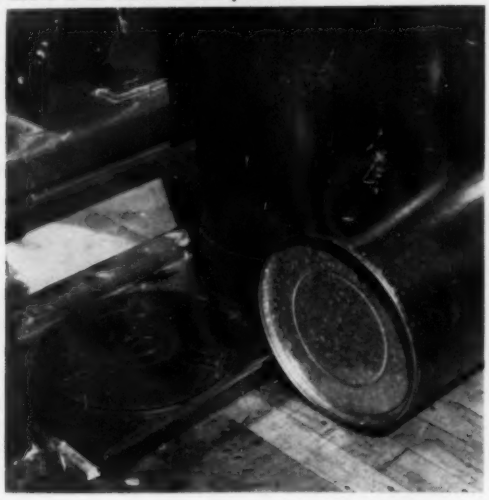
d. The freight is in large annual volume, fairly regular, and within the limited territory of the carrier.

Under these conditions, a contract carrier is efficient and satisfactory, and would obviate any need to invest cash in company-owned trucks.

The use of synthetic-rubber covered fabric has cut the cost of greenhouse soil fumigation at the George Bayer & Son nursery, Toledo, Ohio. A 110' X 16' fabric is laid over the soil beds, and then steam is introduced through lines of tile beneath the soil surface. The steam is forced in for about 10 hours. The Hypalon-coated fabric used by the Bayer firm was manufactured by the Vulcan Division of Reeves Brothers, Inc.; it lasts twice as long as the fabric previously used, for a 30 per cent greater initial cost.

Choosing the right roving can is important—a bad guess eats up profits by reducing efficiency and quality

LEFT: This is frequently the reason that roving cans get bent.



CENTER: The coiler pilot and the can bottom should fit correctly.

RIGHT: The can spring should have sufficient force to keep the sliver at the top of the can, or above it as shown in this photo.

Profit leak? Could be wrong roving cans

by Davis E. Williams
District Manager
National Vulcanized Fibre Co.

Exclusive

FOR YEARS the textile industry considered roving cans hardly more important than the numerous other receptacles around a mill. Chief considerations were the cost of each can and the amount of floor space it required. Machine speeds were relatively low in those days.

In the late 1940's, for example, drawing frames operated at speeds of 90 to 125 fpm. Roving cans in 12″ x 36″ sizes, holding up to 15 lb of sliver, were in common use. These speeds and can sizes were considered adequate for profitable mill operation.

A later trend to higher machine speeds and more specialized accessories, however, quickly made the established pattern obsolete. New drawing frames producing sliver at speeds of 150 to 200 fpm were developed. Larger roving cans were needed and consequently two new standard sizes—14″ x 36″ and 15″ x 36″—were adopted. These new sizes were considered adequate until it became obvious that greater use of floor space could be realized with a taller can. This brought the 42″ high can into use.

About 1956, a major manufacturer of drawing frames introduced a unit capable of speeds to 300 fpm, which required still larger cans to feed the drawing frames and to receive the drawing sliver. Other manufacturers followed suit, and today 18″, 20″, and 24″ diameter cans, which hold from 40 to 90 lb of sliver are common. In fact, 30″ roving cans are now being considered for card coilers.

Quality Became Important. Until mill operations came under closer study, roving cans were used not only to handle sliver, but for almost any job that required a receptacle. These cans did their job well. There are many 12″ roving cans that have been in use 20 years or more and are still in good condition. Today's needs, however, have placed a premium on quality in roving cans; consequently they no longer are considered a multipurpose receptacle.

The need for quality in ma-

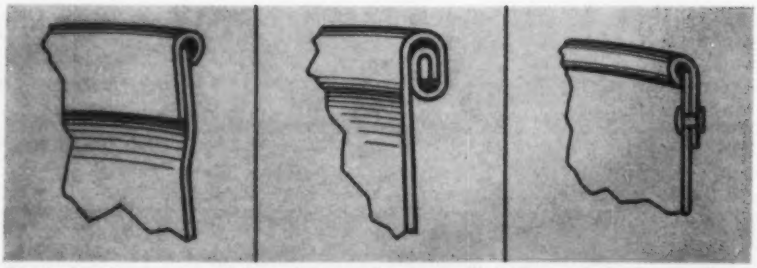
terials handling receptacles for delicate textile fibers is often overlooked until finished cloth shows evidence of decreased machine efficiency, an abnormal amount of defects, and increased waste. Then, if the cause cannot be traced back to faulty machine operation, roving cans are examined. When the fault is in the cans, the conclusion is quickly reached that poorly designed or defective cans eat up profits.

There are good reasons for this. When a can fits the machine properly and is correctly designed, it holds more stock for drawing and facilitates stock removal for roving. Look at the number of times a pound of yarn in process goes in-and-out of a roving can—up to eight times. Burred top rings, out-of-round cans, and inability to take the proper coiling pattern adversely affect efficiency.

The high speeds of carding, combing, drawing, and roving machinery demand top quality roving cans. Even though the larger cans are not moved as frequently as before, delicate sliver is going in and out of the roving cans at a faster speed. This operation must be done accurately. Actually, roving cans should be engineered to meet these more demanding requirements. Meeting these requirements often depends on specific design features and the use of proper materials of construction.

Types Of Roving Cans. Manufacturers of roving cans produce several basic types which are available in a large variety of sizes and with special accessories. To insure that these cans meet specifications, their makers have adopted standards of dimension with allowable tolerances so that selection of any type of roving can may be made with confidence.

The three basic types of construction are: (1) regular metal top; (2) swedge metal top; (3) rolled fibre top. Each can top has been developed over the years to meet a specific need. Cans up to 18″ diameter are available in seamless construction, while cans measuring over 18″ have a smooth vertical riveted seam and are usually of metal-top construction.



Standard roving can tops, left to right: swedge type, rolled fibre, and regular metal top.

Metal Tops. Cans with regular metal tops are the strongest construction available and are generally recommended for cotton and synthetic fibers. Normally, metal tops are specified for the larger roving cans, 16″ in diameter and over. Because the outside top diameter of this can is less than swedge or rolled top cans, it fits the machinery better.

Swedge Tops. The swedge-top can was developed for use with synthetic fibers and for certain types of machinery where a slight flare at the top of the can is an advantage. This can is slightly larger in diameter at the top than the regular metal tops.

With other machines, swedge-top cans may have definite limitations which should be determined by consulting the machinery manufacturer. On the other hand, swedge-top cans have an advantage over metal-top cans because they offer less resistance and friction to sliver being removed at high speeds. Swedge-top cans, however, are more easily bent out of shape.

Rolled Fibre Tops. Tops of this type can are double-rolled during manufacture into a top edge consisting of four permanently sealed layers. This provides strength and high resilience. Since the top edge is the same material as the can itself, it possesses high rim strength and smoothness and is recommended for handling static-prone synthetic and blended fibers, in addition to combed yarns.

It is important to use care in doffing rolled-fibre-top cans on coilers that have a minimum of clearance between the top of the can and the underside of the coiler plate. This will prevent burrs and nicks. This type of can also has limitations with some types of machinery, and it is wise to check machine clearances before ordering.

Accessory Equipment. Two items of accessory equipment that can be furnished with roving cans are can bails and can springs.

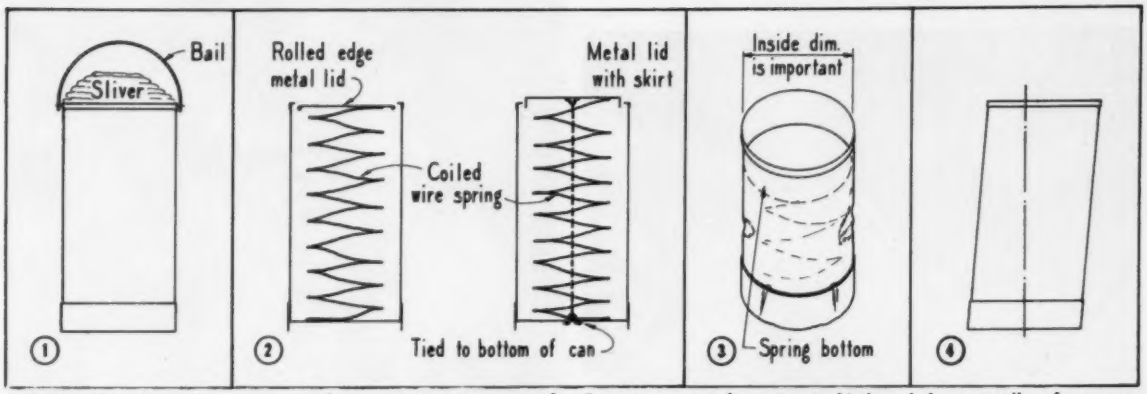
Can bails are made of fibre and are attached to the top of a can to prevent sliver from toppling over when cans are moved. When cans are being filled or emptied, the bails swing down and out of the way. Bails are most useful with mechanical can handling equipment.

The use of larger cans has resulted in the development of two major types of inner can springs. Used on 42″ high and larger cans, springs help maintain the proper coiling pattern by keeping the coiling level up nearer the coiling tube. This way, more pounds of sliver can be placed in each can.

Two types of springs are used—free spring and piston types. The free spring is loose in the can and its top plate extends almost to the top of the can when unloaded. The piston type spring has a wide flange or skirt on the top plate which aids in keeping the plate level as it moves up or down in the can. The spring is tied to the can bottom instead of being loose.

The type and size of spring depends on the load, type of sliver, machinery, and roving can. All these factors must be considered in selecting springs.

As a general rule, a mill's requirements for new roving cans should be thoroughly discussed not only with the supplier and the machinery manufacturer, but with plant operating personnel. This will insure the selection of the cans that are adaptable to all



1. Bail used to keep sliver from toppling over; it swings out of way when not in use. 2. Regular-type spring, left; piston-type spring, right. Lids should be level at all heights in the can. 3. Bent can causes the spring to bind, and does not allow for proper loading and unloading. 4. Vertical run-out causes the cans to bind and will not allow the coiler to deliver the proper sliver pattern.

phases of current and future manufacturing needs.

Checklist of Features. There are a number of important features available in roving cans to increase their usefulness and serviceability. Here is a check list of these features:

1. **Can height.** Insist on specified tolerances. A 42″ can should be 42″ high, plus or minus an eighth of an inch. This tolerance is needed to make sure it will fit under the coiler tube at the proper operating height, and at the same time avoid interference with guides and other machinery parts of high-speed equipment.

2. **Can top diameters.** An out-of-round can may not fit properly in the machine, therefore roundness is essental. This also insures the proper lay of sliver in the can as it fills and also permits the can spring to operate freely when sliver is being removed.

3. **Can bottom diameters.** Inside bottom ring diameters should have close tolerances to insure a close fit on the coiler turntable pilot. A loose-fitting can is difficult to position correctly under the coiler tube. This also applies to saucer-type turntables where the can fits down into the table.

4. **Top rings on metal-top cans.** Metal used for top rings should be galvanized to resist rust, and fabricated in a way that provides high rim strength for stability and roundness. Welds are ground and buffed to a smooth finish and the rings are securely rivited and rolled to the wall of the can for a tight fit. Smooth ring finish is especially important because the sliver may be easily split by faulty or rough rings. Smoothness is also important to minimize a binding action between sliver and the top ring caused by the pullling action of a loaded spring bottom. At high speeds, considerable friction is developed this way. Stainless steel top rings to prevent corrosion are used by some mills that process expensive yarn.

5. **Fibre wall thickness.** All thicknesses should be consistent and provide enough strength to resist abuse without denting or fracturing. Wall thickness, density, and hardness are controlled by the manufacturer during processing.

6. **Can finish.** A good grade of hard, smooth, vulcanized fibre will need only a light coat of synthetic finish to make it suitable for handling delicate sliver. Vulcanized fibre has a low coefficient of friction which tends to improve with age. A good finish on the outside improves plant housekeeping.

7. **Can bottoms.** The bottoms of roving cans should be rust-proof and ribbed for strength. Sagging bottoms cause trouble at the coiler pilot. When ball-type casters are to be used on the cans, bottoms should be reinforced for adequate support.

8. **Fibre kick band.** An extra width of fibre on the lower half of a roving can, called a kick band, is supplied to absorb normal abuse and increase dimensional stability. These kick bands should be a stated width, which is related to can size, and should be shrink-fitted for a perfect bond.

9. **20″ diameters and larger.** Mills considering roving cans that measure 20″ in diameter and larger should be familiar with the machinery's requirements for roving cans. These larger sizes require thorough reinforcing at their tops. An extra investment in better design features for these larger cans may mean many times longer maintenance-free life.

The Trend in Roving Cans. At the present time the majority of roving cans used with drawing and combing machinery measure 18″ in diameter, while sizes up to 30″ are being used for carding machinery. The trend among these operations is toward larger and larger cans.

This trend, however, does not necessarily imply that larger sizes are in the future for all machinery requirements. It is possible that new mechanical handling equipment, as well as improved machinery performance and design, may influence a reversal of this trend if the demands of automation so dictate. At the present time, this seems unlikely. However, at least one new mill now in the planning stage is contemplating the possibilities of using smaller cans in conjunction with automatic handling equipment.

In the near future though, it seems apparent that the trend to larger roving cans will continue in conjunction with a greater emphasis on engineered design features for cost reduction.

It's easy to parallel the picker. Just rock a cam to set height.

Maintenance consists chiefly in keeping the set screws tightened.

Aim, throw, and catch!

Mill okays the linkage-type parallel and the No. 14 shuttle check

Staff prepared Exclusive

◆ *There being considerable interest among textile operating executives concerning the performances of the linkage-type parallel and the No. 14 shuttle check, we set out to prepare an article on the subject and as a model selected one mill with a known successful record with the two. And while the firm that gave us the meat of this report prefers to remain unidentified, it has established itself as something of an authority in the use of the two devices. Some of the performance data we collected could appear boastful—thus the firm's desire to remain in the background.*—THE EDITORS

THE FIRM began with a modest installation of linkage-type parallels a few years ago, but with enough units to permit adequate evaluation. Immediately, both management and fixers had to learn to adjust for the seemingly added power the parallels offered.

Today, the firm requests the parallel on all new looms on order and is installing them on old looms as the conventional units become exhausted.

"Dependable" is the Word. When asked what seems to be the one advantage represented in the parallel, the fixer's stock reply is, "It stays where you set it," a statement not reknowned for its length but one loaded with meaning.

Once the picker is parallel to the lay end, the fixer can depend on its staying there even though he has to replace the picker stick several times. He loosens an Allen set screw, and with the Allen wrench turns a cam slightly to lift or lower the picker to match the shuttle spur height. A far cry from having to loosen a heel bolt and fiddle with a second set screw to rock the picker stick back and forth!

He does not have to set the picker 1/32" higher at the end of its sweep as is the custom with the conventional motion.

When he sets the parallel with the picker stick in the center of its lay slot, he can be sure that it

The No. 14 shuttle check has three straps to check, hold shuttle.

Rear view of the check showing inner, center, and outer straps.

will stay there unless tugged aside by an unruly check strap. And since it stays there in the center, it is not normally cramped against the side of the slot to kill picking power.

The parallel design takes care of that. Instead of a shoe resting on top of a foot, and being free to move in almost any direction, the new unit utilizes a series of linkages to hold the picker stick positively on course from beginning to end of stroke and back again.

There are no blocks, tongues, pins, or sleeves in the conventional sense to wear and allow the stick to twist or flap about inside the slot. There is none of the "rolling" motion of shoe on foot that gives the conventional unit its parallel action.

Naturally, with the stick gripped firmly in its clamps, and with no lost motion in the linkages themselves, the stick is not free to twist aside so easily under the combined action of check strap and shuttle pounding. To be sure, there is often some wear visible on the sides of the picker stick, but it is minimal—one only has to examine the stick from a conventional parallel to reassure himself.

"I'd Change a Couple of Things." Perhaps it is inevitable that the fixers should get around to recommending a couple of changes, but since the supplier listens with both ears when a fixer has something to offer, the recommendations are both timely and well put.

With a fixed lug height, the fixer makes his power adjustment by drifting the pick arm up or down. But a change in that setting can easily call for retiming the pick motion, and the situation could be avoided if it were possible to lift the lug slightly now and then.

He did not recommend that it be adjustable to a lower level. As it turned out, he had more power than he could use anyway, especially after the first batch of plastic shuttles arrived. What he wants is a means of making fine adjustments in power that now require a great amount of time and effort in moving the pick arm just so.

"Build it to limit the power the fixer can use," he says, "but allow us to lower loom power quickly, surely, and as easily as possible." A far cry from the days when fixers howled for absolute freedom in lug settings!*

Secondly, the lug stretches so much that the fixer is involved with endless adjustments. "Why not depart from the idea of lugs and put a link from the pick arm to the parallel motion without having to throw a member around the picker stick and keep it set to the proper length?" they ask. "If we could keep that link at a fixed length, we could spend a lot more of our time doing something 'useful'."

Maintenance Hints. In the years the parallels have been in use, they have been almost free of maintenance needs. And those that have become worn did so from "little" causes.

The set screws that hold the pivot pins in place sometimes loosen and let the pins work loose. The looseness not only spoils much of the parallel action, but it accelerates wear as well. Too, now and then a grease fitting vibrates

*This adjustment is available in the linkage-type parallel, but it is recommended only for plants in which frequently changing styles require something in stepless power settings and in which changing the side links to effect this can prove laborious. The side link is selected to fit a particular power need, and it draws much of its value from its limiting lug heights to a pre-determined level. Thus, making the side link adjustable in the old sense of the word can easily destroy much of the motion's worth. —The Editors.

Auxiliary strap stops picker stick, keeps it off end of slot, saves much of this wear.

loose and drops out of the ball-and-socket joints that attach the "lug connector" to the pick arm. This is the position occupied by the conventional short lug.

The only real failures at that point have resulted from the missing grease fitting and from an oiler "goofing" in not reporting that he could not grease the joint. The set screws and grease fittings are given a periodic tightening that has eliminated that trouble.

Stronger Catcher's Mitt Needed. The picking motion is not extended in the least, being able to knock the loom apart with pure power at almost any time. Consequently, with a dogwood shuttle in play, the motion can be made to loaf along in swatting that lightweight around.

Set in a much heavier shuttle, and the picking motion doesn't bat an eye—it just sends the heavier shuttle plowing into the box hard enough to tear things up. It is difficult to get the motion to take it easy enough to allow reasonable life in box leather, check straps, pickers, etc.

Literally, when the plastic shuttles arrived, things began to bounce. Word reached the plant that there was a new shuttle check available that could take the pounding "on the chin" indefinitely and, furthermore, which could nab a flying plastic shuttle and hold its nose tightly in the picker bore every time. The new check soon showed up.

Basically, it consists of a combination of the endless check strap, the conventional check strap, and an auxiliary check strap that acts as a stop. On looms without the open-end lay, the lay end strap usually is removed.

The combination is set with the procedure used in adjusting the endless check strap—adjusted to force the strap to slide through both front and rear fingers with a minimum of "sawing" around the picker stick. If the check is not well balanced, it forces the stick sideways and can actually lead to the familiar cramping inside the slot. The combination of three straps, when properly set, takes abnormal strain off the units so well that leather costs remain about the same as for the conventional check strap and dogwood shuttle.

While the auxiliary strap is set to stop the picker stick approximately ⅛" from the end of the picker stick slot, it is possible to force the stick through this ⅛" cushion space, but the force so required is not met in normal checking. And even though this ⅛" gap may be maintained, fixers must watch for picker wear allowing the shuttle to box too deeply.

The recommended setting at the battery end suggests placing aligning marks across the shuttle and box fronts. These make good visual check points, for if the lines fail to match while the loom is running, the shuttle is not boxing correctly and is likely not to be in correct position for good transfer.

Otherwise, the fixer must stop the loom to check for correct "ringing." To check a loom for proper "ringing" when the loom is not marked, the fixer stops it, transfers it by hand, and sets the auxiliary strap to position the shuttle properly.

Fortunately, shuttle design permits the shuttle to go nearly ¼" too deeply into the box and still ring up for good transfer. But this ¼" distance is a maximum.

The exact distance needed between loops formed by the endless check strap and the center check strap (check strap, center) is determined by loom operation, but as a rule it ranges from ¾" to 1".

With this combination of straps —the auxiliary, the endless, and the center—the picker stick should pick them up in succession until the auxiliary finally arrests all motion. The usual bumper arrests the motion toward the loom side.

Part of the end result is a picker stick that never touches anything more solid than a leather cushion at either end of its stroke. This in itself adds to picker stick life—one doesn't have to try hard to recall the stick splintering that often begins just below the picker.

That just about wraps up the story as we found it. But in parting, it seems fitting that the highlights be listed for easy reference.

1. The parallel motion requires only light maintenance such as keeping the set screws tight and the pivots well greased.

2. It throws a true shuttle, day after day, with a minimum of attention, and need not be reset with each picker stick change.

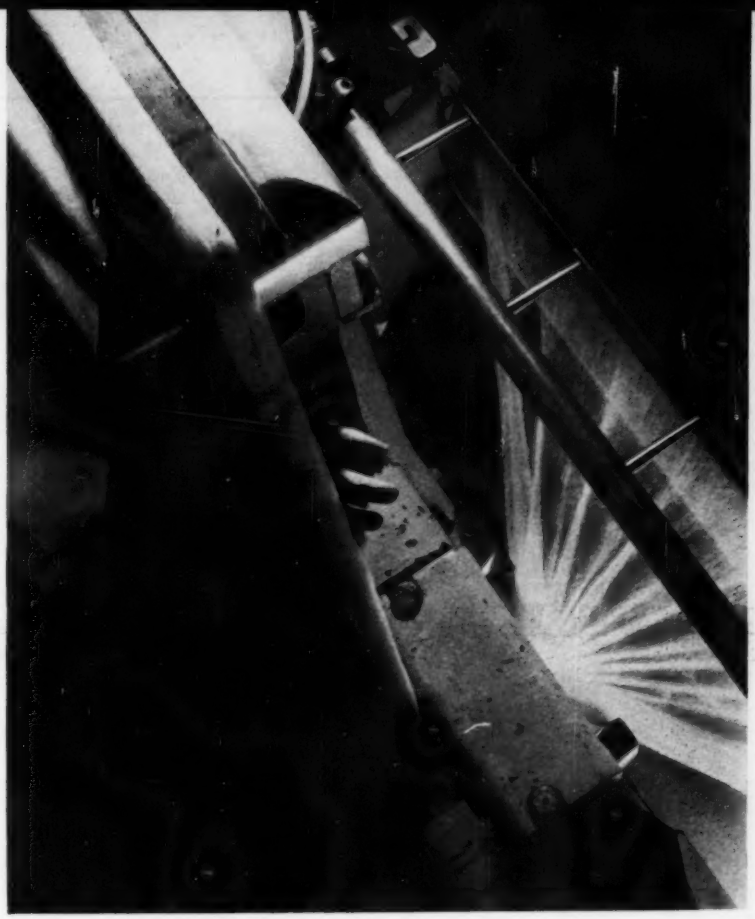
3. It is designed to give adequate power and can be purchased to give different power ranges.

4. The No. 14 shuttle check stops the plastic shuttle adequately, permits proper transfers, and actually has presented the firm with a saving in picker, picker stick, and leather life when used in conjunction with the linkage-type parallel. No figures are given that express the relief the fixer gets from having fewer and fewer adjustments to make in power and in shuttle checking and in replacing fewer and fewer parts.

What is the best sliver weight?

Here are opinions of Alabama mill men on this and card and spinning room maintenance

Staff Report



THE FIRST part of the report of the fall (1960) meeting of Alabama Textile Operating Executives appeared in the January, 1961, issue. This, the concluding installment, reports both the spinning discussion and the remainder of the carding talks on maintenance.

"Heavy" Card Sliver. Efforts to increase card production by increasing card sliver weight above the plant "normal" result in the conflicting findings (there being little correlation) set forth in *Table 1* (on the next page).

Half the reporting plants experienced a drop in sliver uniformity after increasing sliver weight; half of them report an increase in nep count. But the drop in uniformity does not always accompany a rise in nep count.

One plant spokesman stated that his firm has doubled sliver weight but runs the sliver four ends up at drawing instead of the former eight ends up. Drawing is done at 450 fpm, nep count and uniformity are improved, and ends down are "no worse."

In *Table 2* are test data compiled by *Mill E* in studying the effects of both metallic and flexible clothing on the heavy slivers. In summary, this firm noted "a significant increase in nep count on regular wire clothing and approximately an 18-per-cent increase in neps on the metallic clothing. However, considering the 50-per-cent increase in pounds per hour (from 12 to 18), the nep count on the metallic was good. We feel that the pounds per hour could be increased approximately 25 per cent with very little if any change in the quality of our goods. There was no significant difference in the evenness at different processes, the operating conditions, or the strength compared to regular production."

Card Room Maintenance. The mill men gave an interesting array of schedules for preventive maintenance and overhauling, and judging from the nature of the replies, preventive maintenance is crowding overhauling right out of the mill. And even now when the term "overhauling" is used, it seems to carry a meaning different from that of a few years ago.

Previously, overhauling took place when equipment became exhausted: today it seems to mean lining, leveling, and otherwise performing maintenance chores not often needed or which are too heavy for a fixer to do alone.

The schedule presented by *Mill H* is indicative of the care the plants exercise in their maintenance programs:

Once each four weeks, each picker receives a thorough examination, with the fixers looking for any wear that spells trouble (either in lap nonuniformity or in the beginnings of wear that can cause failure in related members), gears that are chipping, galling, wobbling on the shaft or key, etc., beaters that need turning or replacing to get a sharp edge into play, and for any other parts that need replacement.

During this maintenance period, all gears are cleaned, oiled or

TABLE 1

Results of Increasing Sliver Weight and Card Production

Mill	Cotton		Sliver wt (grains)		Card prod. in lb/hr		Nep count		Sliver uniformity	Remarks
	Grade	Staple	Before	After	Before	After	Before	After		
A	SLM	1"	56	112	13	18	2.15/ grain	1.59/ grain	improved	Lowered appearance and strength; uniformity in breaker and finisher drawing is down.
C	MB	1 1/16"	59	92	9.12	12.63	17/100 sq in.	24/100 sq in.	lower	Trash and strength remained about same, but appearance suffered
D	SLB	1"	60	81	16.04	21.60	11	4	improved	Nep count based on 75 yd of sliver; warp stock; yarn quality, appearance unchanged
E*	M	1"	66	100	12	18	10.6/ grain	19.5/ grain	improved	Roving uniformity lowered 10 - 12%; yarn grade unchanged; evenness not checked; cloth speck count rose from 3.0 to 3.8—see *Table 2*.
F	SLB	1"	57	62	12	12.6	11 more/100 sq in.		lower	Sliver evenness suffered with CV rising from 3.65 to 3.69; roving CV is 7.07 on heavy stock; 6.49 on regular; trash is higher.
G	MCSLL	1 1/16"	50	90	—	—	35/100 sq in.	32/100 sq in.	lower	Slowed cards so production is same; web appearance improved; yarn appearance same but strength is down; yarn evenness suffered.
L	M	15/16"	—	70	—	10.5	improved		improved	No change in quality; roving evenness better over-all.
R	SGO & GO	15/16" to 31/32"	70	141	16	29	increased		CV up 5%	Sliver quality lower; yarn has rough appearance.

*See *Table 2* for a study by this plant in which 100-grain sliver on metallic and flexible clothing are compared to regular production of 66-grain sliver.

greased (even those under covers), and the entire picker is run free of cotton and blown out carefully. But this is not all.

Each six months "overhaulers" remove, inspect, align, and replace where necessary, all screens. While they are at it, they check again all bearings, rolls, gears, etc., and replace or restore them as needed. The calender section gets the same fine-tooth combing, the evener motion gets cleaned, reset or repaired, the beaters are examined again and set, the grid bars examined for damage and replaced or repaired as needed, and the aprons are reconditioned.

On a 13-day cycle, the card grinders inspect and take corrective action on: gears, brushes, combs, belts, flats, clearers, and mechanical conditions in general. At such times the card gets a thorough cleaning and oiling or greasing—all oil holes are kept picked out. The fixers set the flats every 26 days, the backs every 52 days, and the fronts every 13 days. Yearly, overhaulers pull the screens, inspect them, clean them, and replace them as needed. Additionally, the clothers check all bearings, shafts, and journals and make a record of their actions.

Each 90 days, an overhauler removes all top and bottom drawing rolls, cleans, checks, replaces them as needed, and sets them. The rolls are buffed at this time. Not stopping with roll maintenance, he cleans and takes corrective action on gears, tube gears, turntables, calender rolls, bearings and roll stands, trumpets (sets them too), and checks roll run-out. He also lines and levels the frame.

He checks frames with metallic top rolls every two weeks, performing essentially the same as detailed above but with the added duty of cleaning and oiling the bearing seals of the top and bottom rolls.

Fly frame maintenance is based on a 9-month cycle and requires the overhaulers to clean the frame thoroughly; remove and clean all rolls (and buff the top rolls); clean and grease the roll

TABLE 2

100-Grain Sliver from Metallic and Flexible Clothing Compared with Normal Run of 66-Grain Sliver
(Mill E)

Process	100-Grain Sliver		Regular 66-grain sliver (results are 6-mos average)
	Metallic clothing	Flexible clothing	
Carding			
Nep count	12.5	19.5	10.6
% nonuniformity	2.12	2.35	3.35
Drawing			
% nonuniformity	4.36	4.26	4.91
Roving			
% nonuniformity	8.75	9.45	8.00
Spinning*			
Yarn count	13.50	13.50	13.50
Break factor	1989	1922	1894
Yarn grade (blackboard)	B	B-	B
Cloth speck count 36" 2.85 sheeting (sample filling, regular warp)	3.1	3.8	3.0

*14.00s filling yarn showed no significant difference from the above 13.50s warp.

Lester Sayers is now serving as general chairman of Alabama Textile Operating Executives.

stands; clean, set, and replace where necessary, all gears; clean and block the flyers; clean, grease, and replace where necessary, bobbin and spindle shafts; clean bolsters and spindles; balance the carriage; clean, oil, and adjust steps; set stroke and full-package knock-off; check builder and dog; replace or turn clearers; check and clean traverse motion, line folding trumpets; check arbors, saddle, and cap bars for condition; line and level the frame; and check roll run-out.

Overhaulers check run-out on both drawing and roving frames at each overhauling cycle. The gauge has a magnetized base which holds firmly to the roll beam and enables the overhaulers to check a complete stand section by moving the gauge along a rod without moving the base. They check every line of rolls at each stand on the drawing frames; every line of rolls at every other stand on roving frames. The rolls stay weighted through the run-out tests.

Card room machinery overhauling schedules of 14 of the mills reporting are presented in *Table 3*.

TABLE 3

Card Room Machinery Overhauling Schedules

Mill	Pickers	Cards	Drawing frames	Roving frames
A	yearly	yearly	quarterly	quarterly
C	yearly	yearly[1]	—	yearly
E	yearly[2]	1176 hr	2 yr	yearly
F	yearly[2]	—	yearly	yearly
G	6 mos[4]	when clothing	90 days	9 mos
H	4 mos	—	3 mos	yearly
I	6 mos	—	yearly	6 mos
J	30 days	when clothing	6 weeks	6 mos
K	yearly	4 years	yearly	yearly
L	yearly[5]	—	yearly	yearly
O	yearly	27½ days[6]	yearly	yearly
P	yearly	—	yearly	yearly
Q	yearly	yearly	—	yearly
R	6 to 8 mos	when clothing	8 to 12 mos	8 to 12 mos

[1]Maintenance chores are divided among fixers, with three taking care of the seven pickers. There are six grinders maintaining the 217 cards by blowing out screens each grinding cycle and checking for worn parts. Yearly, the fixers drop screens, clean the good ones and replace the bad ones. Drawing (40 frames) undergoes day-to-day maintenance (on one frame per fixer) by the two fixers. This daily work includes cleaning top and bottom rolls, greasing, and cleaning the big head of one frame.

[2]Opening machinery is overhauled yearly. Picker calender sections and eveners are overhauled each six months.

[3]Picker fronts overhauled each three months, eveners each six months; cards are set completely each three months, screens pulled each six months; drawing rolls cleaned once per month, buffed each six months; slubber rolls cleaned each three months, buffed each six months.

[4]Each four weeks, fixers run cotton out of pickers and clean them thoroughly, removing all gear covers, cleaning and oiling or greasing all gears. At this time, beaters are examined and turned or replaced if necessary, and entire picker is checked for worn parts, gears, etc. These are replaced as needed. Card clothers check all bearings, journals, shafts, etc., while clothing and record repairs made.

[5]Fixers do practically all card overhauling while card is down for grinding.

[6]Cards are divided among the grinders so that the same grinder always sets and grinds the same cards. All cards are checked twice per year and leveled if needed.

Spinning

Spinning Maintenance Programs. The topic of spinning maintenance included 14 subheads, and there were 17 replies.

The bulk of the returns are included in *Table 4* with explanations footnoted when the situation could not be clarified in the table.

For instance, the plants reported preparatory work necessary in stopping the frames, re-

J. Bernard Forbus led spinning discussion.

moving the rolls and placing them in suitable holders for scrubbing, etc., that essentially is the same for all plants and which is not listed herein.

In some cases frame leveling and lining accompany roll scrubbing. In some cases the scrubbing is done with much greater frequency than leveling and lining. And in some instances the number of frames cleaned per shift per person runs as high as 1½ compared with a low of ¼. But the difference lies in the extents to which the plants carry the combination of "overhauling" and scrubbing.

These were reported in considerable detail, but to discuss them thoroughly enough to enable one to study the approaches used by each plant would simply be beyond the scope of this report.

Likewise, the maintenance records the various plants keep are sufficient material for several articles. Of necessity they are briefed herein, but a composite or typical one would read *(Mill E):*

"Individual file card [or other record] is kept for each frame. All major adjustments, repairs, and replacements are entered along with the date of the overhauling."

Some of the firms went into detail, enumerating "all major adjustments, repairs, and replacements" as did *Mill O:*

"Records show when overhauled, lined, leveled, spindles plumbed, spindles oiled or flushed and refilled, steel and top rolls oiled. . . . "

Rather thorough records are kept at *Mill A.* There the date of new steel roll installation is stenciled on the base rail and head end of the frame. The date of new ring installations are stenciled on the base rail and at the foot end. Overframe cleaner cuffs are stenciled with the installation date, and a ledger shows when new aprons and cylinders are installed and when roll scrubbing, plumbing, lining, and leveling take place.

TABLE 4—Spinning Maintenance Step Frequencies

Mill	Steel roll cleaning: Freq. (mos)	Steel roll cleaning: No. in crew	Lubricating frequencies: Anti-friction top front rolls (mos)	Lubricating frequencies: Anti-friction sp'd'le oil ch'ge (mos)	(L) or (S) bottom apron life (mos)	Vacuum system flute cl'ning method	Anti-friction sp'd'le pl'b'ng freq. (mos)	Lining and leveling freq. (mos)	Replace bad aprons only?	Group the good ones?	Frames cleaned per operator per shift	Are maintenance records kept?
A	4	4	—	6	(S) 12 to 18[1]	brush	18	18	yes	yes	3/4	yes
B	3	2	120 hr[2]	not changed	—	brush	12	12	—	—	3/4	no
C	3	3	24[3]	12	—	wiping	24	24	yes	yes	—	yes
D	3	2	10 to 30 days[4]	60 (greased)	varied	blown out daily	12	18 to 24	yes	yes	1 to 1½	yes
E	18	4	—	—	(L) 30 (S) 60	brush	18	18	yes	yes	1/4	yes
F	12	3	36	12	varies[5] 1 to 36	mop	12	12	yes	yes	1/3 to 2/3	yes
G	6	3	48	when oil darkens	—	brush	6	6	no-all	yes	1	yes
H	24[6]	4	3	12	—	—	24	24	yes	yes	1	yes
I	6	7	36	6[7]	—	—	12	—	—	yes	0.57	yes
J	3 & 12[8]	6	18	8	36	none	12	12	see footnote 8		3 to 6	yes
K	6	2 to 4	48	24	12	soap & water	12	12	no-all	yes	½ to 1	yes
L	4	2	—	3	—	brush	12	12	yes	yes	1	yes
M	4	5	12	12[9]	(L) 9 to 12 (S) 12 to 18	brush	12	12	yes	yes	2/5	yes
O	6	2	24	60[10]	—	brush	18	18	yes	yes	1½	yes
P	6	2	—	—	—	wipe	12	12	yes if enough	yes	1	yes
Q	4	5	12	6	36	brush	12	12	yes	yes	3/5	yes
R	8 to 12	4	36	8 to 12	(L) 24 (S) 36	brush	8 to 12	8 to 12	yes[11]	yes	1/4	yes

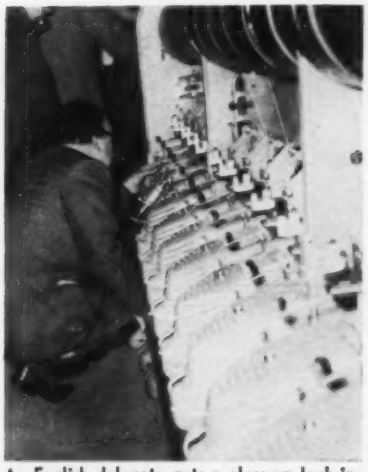
Legend: (L) = leather; (S) = synthetic
[1]On rayon. On cotton it is 2½ years. Leather aprons replaced with synthetic ones.
[2]Oiled on this schedule, tipped weekly, greased on 3-month cycle.
[3]Given first greasing after two years in operation.
[4]Graphited at roll scrubbing time. Lubrication frequency depends on cleanliness and yarn count. Haven't lined and leveled in four years and are trying both random and group apron replacement.
[5]Leather apron life is shorter than that of synthetic, running from one to 36 months against an average of more than 36 months for the latter. Mops vacuum flutes with mild soapy water and rinses.
[6]Chrome-plated roll.
[7]Replenish each six months, replace each 24 months.
[8]Knurled bottom roll of Casablancas taken out every three months. All rolls are removed each 12 months. Vacuum flute cleaning not a problem with present antifriction rolls. Equip a few frames throughout with new aprons, then group the old but usable ones on other frames. Never mix old and new.
[9]Adds oil every four months.
[10]Adds oil every 12 months. Soap, water, and brush used on vacuum flutes.
[11]A frame or two are equipped throughout with new aprons, and the old but usable ones grouped on other frames.

Textured yarn symposium was held in the ornate Prague Conference Hall. Japanese delegates are on extreme right, with East Germans facing them. English group is on right of center table; Russians are facing them.

Textured Yarns behind the Iron Curtain

Textile men from Western and Communist-bloc countries got together recently; both groups profited

by P. Abbenheim
Exclusive



An English delegate gets a close-up look inside an Anilon stuffer-box attachment.

DURING the coming years it is highly probable that growing numbers of Westerners—that does not mean Western U.S.A., but folk from "this side"—will receive invitations to pass through the Iron Curtain and join technical meetings in various centers in Eastern Europe. Americans will, and actually are, on the list of invitations. This does not apply simply to textile men, but to technicians in all sections of science and industry.

It might be a good idea, therefore, to tell those lucky enough to be invited just what to expect. How far can an interchange take place? What will we give and what will we receive in return? Is it worth the deal?

Take as an example, the recent International Symposium on bulked yarns held in Prague, Czechoslovakia. Delegates came from far and near. There were several Russians—four or so—a couple of Hungarians, half-a-dozen East Germans, some Japanese; and from the West there was a group of half-a-dozen Englishmen, a Frenchman, a couple of West Germans, and an Italian. And, of course, a vast collection of Czechoslovakians.

The conference was held in the elegant surroundings of a club in the heart of Prague, specially intended for technical get-togethers. At the end of the great meeting

Entrance to the Elite hosiery mill at Varnsdorf, Czechoslovakia. Note slogans posted over the main gate.

One of six French A.R.C.T. false-twist texturizing machines in the Elite hosiery mill visited by Western textile men.

hall were four sound-proof booths and from these were transmitted four simultaneous translations of the technical papers given by various delegates. These were picked-up by the other delegates who were provided with stethescope earpieces and tiny transistor receivers to pick up the short range VHF transmissions from the booths. Generally speaking the translations were very good indeed.

All papers given—more than 50% by the Czechs themselves—were of a very high technical standard and the delegates all agreed that for this alone the visit would have been more than justified. If East European papers were added to those of the Czechs then the weight was completely on the East European's side.

What then could the Western delegates contribute to all this? Obviously some technical papers of a high standard, as given by the British visitors and a published, but not read, paper from a French group who were prevented from attending, did something to redress the balance, but in view of the fantastically generous hospitality of the Czechoslovak Scientific and Technical Society, it was only a partial compensation.

The delegates were taken to two plants. The first was making textured yarns, mainly from Czech polyamide fiber of the nylon 6 type which is called Silon in Czechoslovakia. The other was the big nylon factory at Plana where filament Silon is made in plain and spun-dyed forms. There is also a pilot plant for polyester fiber, as the Czechs have bought a license for this production from I.C.I. in Britain. They call this Silon-Extra!

From all appearances, there was little in either plant that was not shown to the visitors.

A visit to the Elite hosiery mill at Varnsdorf in the extreme north of the country, almost bordering on Poland, showed that although much very old equipment is being used in Czechoslovakia, this is not slowing production. The bulk of machinery at this plant is prewar, but it is still running well and, in some instances has been modified to make new types of yarns or knitwear.

Most of the old equipment had been purchased from companies in what is now East Germany, but which at the time of purchase, was part of Hitler's Reich. It was on throwing equipment of this type that modifications to produce false-twist yarn had been added. Even so, production was still at a very low level. Yarn for stretch garments is still largely processed by the conventional technique of twist/set/untwist . . . slow and tedious.

Now, however, they are putting in false-twist conversions which they call Tvasil Mk. I. They have, however, installed Scragg equipment from Britain and French A.R.C.T. frames. These are largely considered as stop-gaps until their domestic equipment is perfected, and this is moving pretty fast. Soon they will be tooling up to mass-produce single-purpose false-twisting equipment.

Free With Data. Just how free they were with information could be told from the data on the end of the frames. Taking the A.R.C.T. machines, it was noted that they were running at 70,000 rpm on 40-denier Silon at 180 C heater temperature, from yarn supply with either 50 or 100 turns per meter (about 1¼ or 2½ tpi). There were six frames in the factory, each with 216 spindles.

The plant was first set up in 1924, and was nationalized after the war. Of its 1,500 workers, 70% are women. Today the Elite complex consists of two large and five small plants and it is making women's stockings and outerwear in textured synthetic yarns, worsted, and combed cotton.

After the visit through the plant, on a Saturday, delegates were invited to take part in a technical discussion. This is the "punch line": Imagine all the people in a Western mill, from the chairman down to the union shop stewards, giving up an otherwise free Saturday afternoon to talk shop!

These people not only did it, but kept it up for over three hours! They had a list of questions as long as your arm to ask and they were all technical and straight-to-the-point. Many of them were questions for which we still have no adequate answers ourselves, but it shows just how on-the-ball they are.

Take the problems of processing polyester filament yarns. They asked what tensions, throughput rates, heater temperatures, etc., were considered best for particular deniers. How do we check yarn quality on textured yarns of various kinds? What is the best way of reproducing particular effects, and how does one ensure maximum quality with a minimum number of faults? These were but a few of the points raised.

Then there was always the question, embarrassing in the extreme to Western delegates: "Would you please tell us what you think of our factory? What don't you like about it? How would you suggest we improve it?" All such questions coming from people for whom self-criticism is now virtually automatic were still questions it was hard to answer.

When hospitality reached a certain level in the evenings these questions were often raised again, and then inhibitions were not quite so evident. We western visitors were then able to explain that we too have, and have had for many years, many of the facilities of which they are so proud and that our own modern plants are in every way as good, and often far better, than theirs. The idea of social justice is not new to us and eventually we established that even in the West we wanted everyone to have the richest possible life and the best working conditions and that the dignity of man was considered vitally important to us, even though we do not speak of it so openly.

We Need to Propagandize. Western propaganda is sadly lacking. We need to drop the sophisticated attitude towards life when going East and speak of Peace and Freedom as something important to us, just as much as it is to them. We need to plug, over and over again, our peaceful intentions. It may not be really in keeping with our attitude towards life in the West, but it is vital in East Europe. They need reassurance just as much as we need to promote our "way of

life." This can be done without knocking the other side.

To revert to the technical discussions, these were held on both plant visits and were very thorough. The home team had the advantage in that they were prepared, but they offered the visitors every chance to ask their questions and here again it appeared that they were only too willing to be as helpful as possible. It might even be said that since one could ask any questions one liked and photograph anything one saw, there was more freedom than in most Western plants.

The Czechs found it difficult to understand why delegates and firms to whom they wrote were reticent about giving away trade information. They have no competition in the trade and this is something that should always be remembered. They have, accordingly, nothing to hide or protect, for if something is considered good then it is developed for everyone.

Czechoslovakia is developing yarn texturing equipment for the entire Eastern area, while Hungary is concentrating on textile instruments, and East Germany on man-made fiber production plants. The Czechs have already handed over their textile instruments to the Hungarians to develop and build commercially. This is part of the general integrated plan for the economic development of the whole Communist bloc.

This also explains why there is no competition in their industry and why the infringement of patents does not really appear to bother anyone. They freely admit that they have studied all our patents before starting on a development project and that they have based many of their concepts on these.

False-twisting is now almost free for all to exploit, but there is the Textralized stuffer-box process they call Anilon, while the edge-crimping of the Agilon type is now called Evalon in Czechoslovakia, and Taslan has emerged as Mirlan. So far the stabilized yarns have not appeared, but they are on the way, as is friction false-twisting.

This is not meant to suggest that they have lifted direct from American and British patents, for obviously they have approached machine design from their own standpoint, only utilizing the Western basic concepts. Evalon, for example, does not use a cold edge for crimping. They use a heated silver-plated copper plate to which the edge is fastened, so that the yarn is actually crimped over a heated edge. It is passed over this several times.

Textralized, known there as Anilon, is passed into a tube inclined at 45° and yarn is fed downwards. The feed is intermittent. When the box is full, a mercury switch is tipped and winding-off begins.

Air texturing is through a horizontal jet. This process appears to be still in a development state. The jet at present in use is easily built, but it depends on a very simple roller feed and take-up system which is directly coupled and operates on a fixed ratio, so the degree of texturing cannot be varied in terms of overfeed.

This is where the Czech economy plays a very useful part. It is possible for someone to specify that certain standard cloth constructions will contain a certain type of yarn—in this case air-textured and of a specific denier—and, wonder of wonders, production is "sold out!"

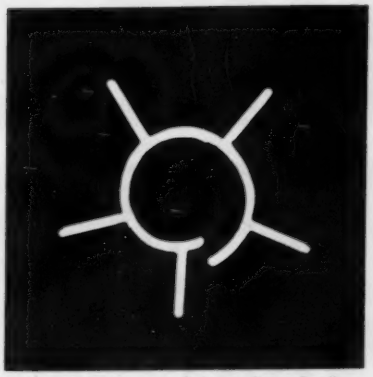
This is how the textile manufacturer's problems are solved in a controlled economy.

Plan Ahead. Control is so carefully planned that in a paper given by Vladimir Chovanec of the Research Institute for Textile Technology in Liberec, he was able to say:

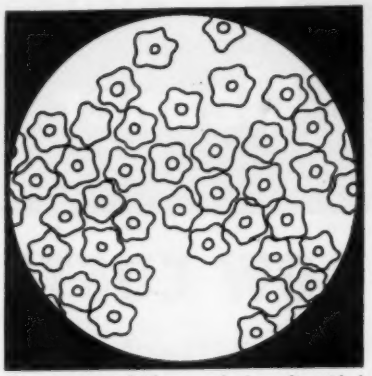
"According to our prospective plan, about 40% of all synthetic filament yarn output will be texturized. From the point of view of the individual texturizing methods the following figures will give the respective percentages:

Tvasil (false twist)	25 - 30%
Mirlan (air textured)	25 - 30%
Evalon (edge crimped)	10 - 15%
Anilon (stuffer box)	20 - 25%

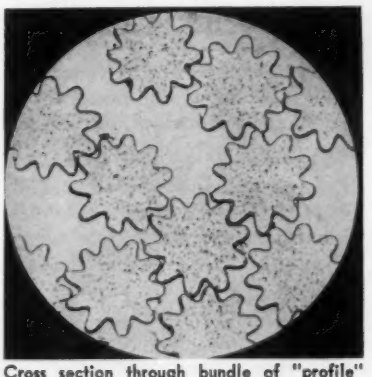
"Nevertheless certain changes may occur since the character of fabrics containing textured yarns makes it possible to use various mechanical and chemical processes to widen the range of effects and different properties."



Spinneret hole as used for making the five-sided single-hole-profile fiber developed by Bolland in East Germany. Note that the circle of the spinneret is not quite complete.



Cross section of fibers made from five-sided single-hole-profile spinneret.



Cross section through bundle of "profile" fibers shows how they behave compared with ordinary round-cross-section fibers. Note meshing of the star points.

Texturizing is seen as a means of obtaining bulkier and lighter fabrics from domestically produced synthetic fibers and so reduce dependence on imports. Bulk and lightness also provide an effective means of lowering the weight of actual fiber consumed,

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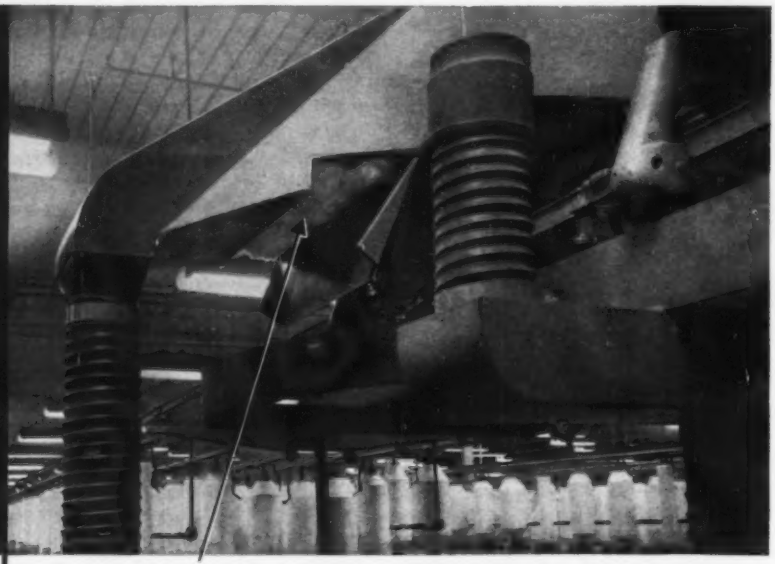

Door opens automatically exposing collected lint on screen as traveling unit approaches stationary vacuum cleanout box.

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thus spreading production still further.

It seems that the Czechs suffer from much the same problems as everyone else when it comes to checking quality and testing fabrics made from these yarns. In a joint paper by Ing. Marie Kovarikova and Vladimir Dufek of the Knitting Research Institute in Brno, they said: " . . . . we think that in the present state of things, the most reliable way of testing these properties is a controlled wear of clothes made of these fabrics."

Dr. Ing. Arthur Stoy, Czech research worker from the High School for Chemistry, Pardubice, spoke about making modifications to fibers at the spinneret and discussed work they had done on extruding two different materials through the same hole in a spinneret. This gave a coupled polymer in a single fiber with a latent crimp which could be released by relaxation in hot water or by some other technique. This, he felt, was suitable for use with such fibers as Orlon, the acetates, and also in wet-spun synthetic polymers such as pvc, chlorinated pvc (PeCe), and polymers and copolymers of acrylonitrile. With wet-spinning, he said, holes of up to 2 mm diameter could be used, followed by drawing to reduce denier. The process is, of course, being actively developed in West Germany for the production of a viscose rayon with good latent crimp properties, particularly for carpet fiber.

Developing the theme of texture at the spinneret, Text.-Ing. Fritz Bolland of the Man-Made Fiber Research Institute for Textile Technology, Rudolstadt, East Germany, related how he had developed a wide range of synthetic fibers with modified cross section and with holes running through their centers. He has done considerable research on this theme, and has not only overcome the problem of making suitable spinnerets, but has evaluated a wide range of yarns, from a simple 5-pointed star, to complex shapes such as horseshoes, sickles, and multi-pointed stars. This was then further complicated by incorporating one, two, three, or even four holes down the center of various versions of these modified-cross-section fibers.

The conclusion from all this work is that modified fibers of this type offer the textile fiber producer and manufacturer very great possibilities, while the consumer will have fabrics from synthetics with improved properties, greater bulk per unit weight, and much greater insulating properties. Reduction in amount of fiber consumed could be by as much as 40% he claims. He sees these modifications as being particularly well suited to the polyamide and polyester fibers. The Czechs were so impressed with this paper that they awarded him the Bronze Medal of the Scientific and Technical Society.

The glitter nylon yarn already in production in the U.S.A. and Britain is a fiber of this type.

In East Germany, Bolland said, it had been decided that for monofilament yarn a 10-pointed star would give the best results, while for staple fiber and multifilament yarn, a 5-pointed star would be most effective. In the production of hollow fibers, either as monofil, staple, or multifil, a 3-sided single-cell fiber would be most satisfactory.

In conclusion, it should be reiterated that for the Western visitor to East Europe, particularly Czechoslovakia, there is today a general openness among technical people throughout industry and a willingness to discuss mutual problems in the freest possible way. No impediments are placed in the way of the visitors and any expressed wish to see a special plant is usually granted at once and a visit arranged immediately. Nothing appears to be too much trouble. Perhaps 'they' do get a lot out of such visits, but it should never be overlooked that we too benefit considerably and it is refreshing to see the difference of approach to problems that have bothered us for so long.

The Czechs are wonderfully hospitable people and they have a fine sense of humor that is sure to make a visit to their country an event not easily forgotten and one very fruitful technically.

Make easy-care crepe on single-shuttle looms

■ LEESONA CORP. has found that commercially acceptable wash-and-wear crepe can be produced on single-shuttle looms by using Saaba textured yarn and Unifil Loom Winders.

Experience has shown that copping or quilling tensions must be as light as possible consistent with production of packages that will weave, the company points out. Also, tension must be uniform throughout each cop and from cop to cop. Since uniform tension of every quill is automatically assured with Unifil, use of the apparatus is recommended.

Shuttles used with this textured yarn should have tension eyes which are adjusted to provide the minimum tension that will permit building of a good selvage and assure a flat fabric on the loom.

In addition to the advantage of high production of top quality crepe with minimum manufacturing costs which may be derived from this technique, it is possible to obtain three different fabric surface effects simply by varying the finishing procedure. The fabric can be finished as all crepe or as 1/3 crepe, 1/3 modified crepe, and 1/3 soft hand fabric. Mills can thus stockpile the basic fabric and greatly simplify planning and organization of production.

Other Woven Textured Fabrics. Any mill weaving fabrics on Unifil-equipped looms can successfully produce Saaba textured woven fabrics, according to Leesona. Since the yarn may be used in either warp or filling or both, the variety of fabrics obtainable is wide.

To successfully use Saaba, allowances must be made for its stretch and bulk characteristics, the company points out. When the yarn is used as filling only, there must be a precise balance between its total torque forces and the total resistance of the warp yarns and size under given boil-off conditions. If the warp contains too much yarn and size, the Saaba will be unable to overcome its resistance and a flat fabric will result. Conversely, if there is not enough resistance in the warp, the filling yarn will distort it, causing such defects as "grinning face," holes, and cracks throughout the goods.

Textile Research Achievements in 1960

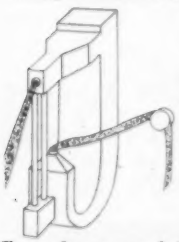
Part 2*—Wet processing, developments in fabrics, and textile instruments and methods are reviewed

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

Wet Processing

Preparation and Dyeing. A British patent disclosed means for desizing and bleaching of cotton cloth in one stage by impregnation with a neutral liquor composed of sodium chlorite, a compound which develops acid at a temperature over 60 C, and an amylolytic agent active below that same temperature. Further progress in the development of techniques for continuous bleaching of open-width goods at high temperatures was reported last June. The "Pressure Lok" machine permitted the running of fabrics into and out of a pressure chamber with little loss of pressure and excellent preparation for dyeing was obtainable in 60 seconds at an ambient temperature of about 265 F.



Fully automatic hank mercerizing was achieved in a new German machine, the steeping being carried out by means of spray tubes while superfluous caustic soda is removed and replaced by a fresh bath. Said to be the first of its kind, a combination dyeing and washing machine for knit goods operating on the rotary dyeing machine principle was introduced by a Philadelphia engineering company.

Improved dyeing of synthetics continued to be the target for much of the research carried out during the year by chemical and dyestuff producers as well as by machinery manufacturers. Reputed to chemically modify nylon, making possible dyeing to a greater depth with more color variety, the "Vitanyse" treatment utilized a nonionic complex organic compound at a cost of not over 2¢ per pound of fabric. How to keep nylon white was the subject of a new technical bulletin published by the Du Pont Co. last September, while a New Jersey chemical company marketed an aid to help eliminate barré in the acid dyeing of nylon fabrics.

A new group of dyestuffs offered by the American Cyanamid Co.'s Dyes Department promised faster dyeing of acrylic fibers. Relying on the use of two chemical additives which eliminated the traditional neutralizing step on carbonized fabrics, a single-bath method for dyeing blends of wool and Dynel modacrylic fiber was claimed to effect a 50% saving in dyeing time. The Du Pont Co. made available on a royalty-free basis a unique sponge-core package dyeing process which compensated for shrinkage, swelling or bulking of yarns of all types during dyeing.

Two patents assigned to the Eastman Kodak Co. and the Du Pont Co. disclosed methods for the dyeing of polyester fibers. One described a surface treatment to improve receptivity to acid dyestuffs while the other involved the use of an aqueous dispersion of a disperse dye at the boil in the presence of a carrier containing dimethyl terephthalate.

New and improved ultrasonic methods and equipment for dyeing natural and synthetic fiber materials by a continuous flow method was described by an electronics concern last June. Included in reports of foreign developments were details of an English pad dyeing machine and high temperature polymerizer, and experimental work by Russian scientists in the continuous dyeing of heavy fabrics by vacuum impregnation. The latter claimed good results with direct and sulfur colors with very short suction periods and fairly low temperatures.

A single-step process for the application of reactive dyes and resin finish was developed by the Imperial Chemical Industries, Ltd., and improved efficiency in the pad application of reactive dyestuffs was obtained by use of an automatic premixing machine de-

Continued on page 158

*Part 1, which dealt with fibers and yarns and manufacturing methods and equipment, appeared in the January, 1961, issue, beginning on page 76.—Eds.

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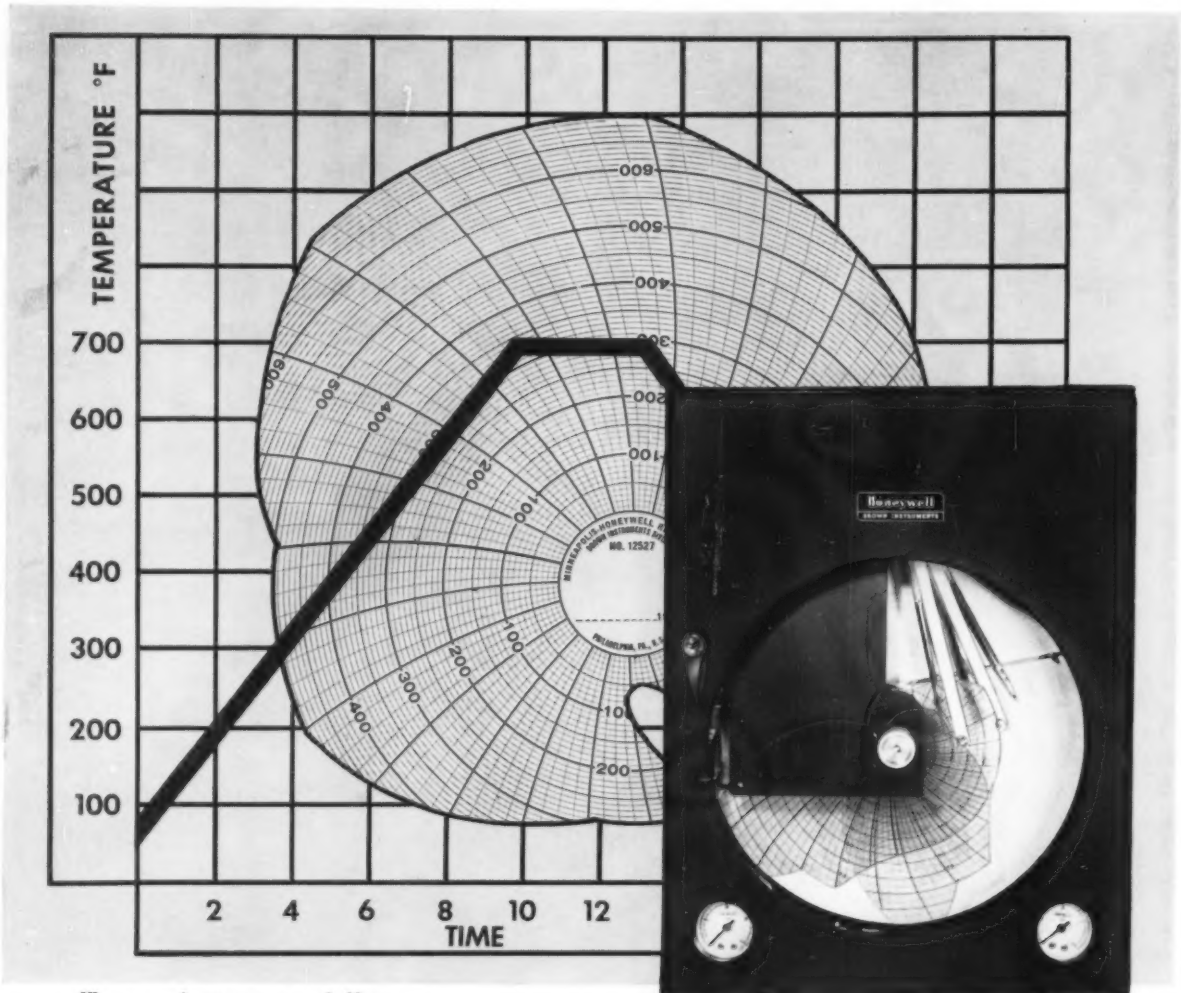

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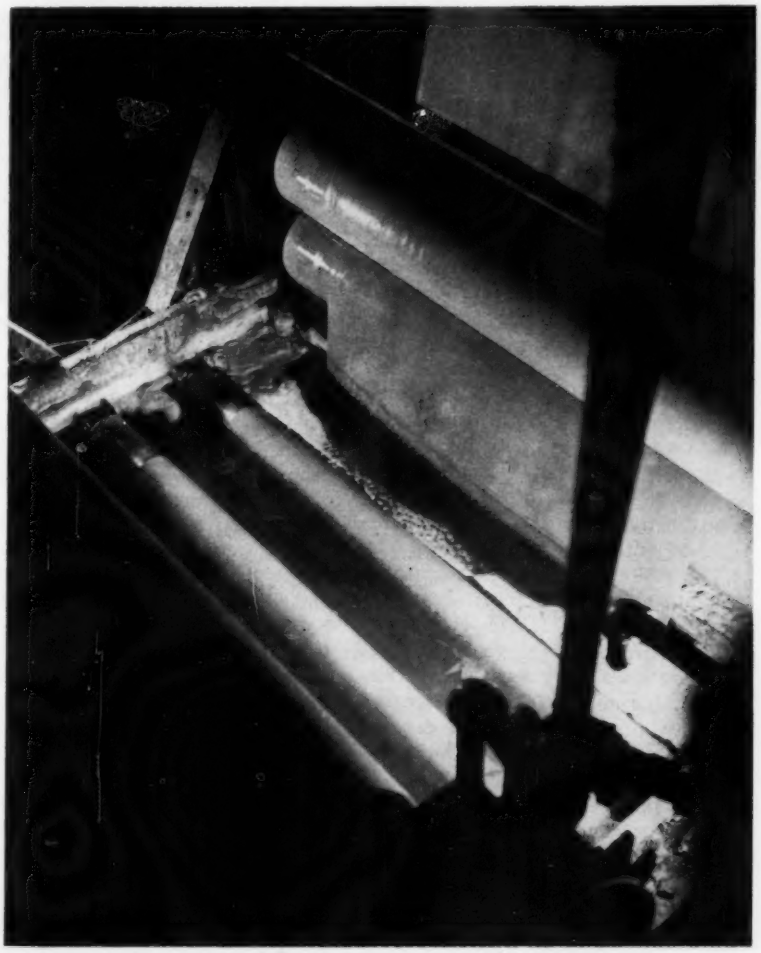
WET PROCESSING

Has the quality of cotton fabric preparation slipped?



COTTON PREPARATION: quality vs production

by Conrad Peters
Exclusive

THERE is such a long history of practical experimentation in preparing cotton fabrics that little question should exist today on what is best method of carrying out a particular operation. The chemical nature of substances found in cotton and of those used in warp sizing was determined a long time ago. Over the years, specific operations have been developed for the effective removal of these natural and acquired substances. The problem that now remains is merely one of selecting the required operations and arranging them into an efficient sequence to suit the circumstances.

Yet in any discussion of preparation and bleaching, wide differences of opinion can be expressed on what should be the required operations and how best to carry them out. For that matter, there can be some question about the actual need for including a certain operation or operations.

During the last 20 years, for example, we have seen the gradual disappearance of the grey sour, and the large-scale substitution of continuous boiling-off for the kier

boil. Pressure boiling has by no means become extinct. But several reasons in combination account for its decreased popularity, even though it produces a fabric of a high degree of cleanliness and absorbency: Some bleacheries found it expensive and unsuitable for many fabric constructions, with a boiling-off period generally regarded as being longer than necessary. However, in some instances, a contributing reason for its replacement by continuous operations was the lack of a sound kiering operation.

As for the benefits of the grey sour, most mill men would agree that it effectively removes metal compounds, which are found in the cotton fiber, and thereby promotes permanent whiteness. But there is by no means a unanimous vote that the grey sour is absolutely essential for satisfactory results.

The Preparation Route. It would require a series of articles to discuss each required operation (and its relation to other operations), bringing in fabric constructions, the availability of space and equipment, the demands of dyeing and finishing, and the limitations of cost. However, a listing can be given of operations which are suitable for fabrics of high quality, to be dyed continuously and finished with crease-proofing agents. The following operations are adequate to meet the most severe requirements of fabric cleanliness and absorption: singe-desize, hot water rinse, grey sour, rinse, kier-boil, bleach, antichlor, mercerize. Many of the operations can be combined, of course, for continuous processing.

In this sequence of operations, the kier boil is the most critical operation. But its success depends in large part on the operations which precede it. The desizing operation is also particularly important, but it is sometimes given less attention because it is believed that further improvements can only be small and insignificant.

The use of enzymes is now very nearly universal to aid in the removal of starch products. However, dilute caustic soda can be used in some cases. This raises the question of whether caustic soda can be as effective as an enzyme.

Selection of method will depend for the most part on fabric construction, on the requirements of dyeing and finishing (the requirements of absorption and hand), and on the time that can be allowed for cloth lay-over after singeing. Either method must accomplish specific purposes: thorough wetting of the fabric and conversion or solubilization of warp sizing materials for easy removal in the rinsing steps that follow. Ineffective solubilization of starch products only adds to the burden of boiling-off, since in the intermediate rinsing only soluble products and residues can be removed.

The amount of sizing that is applied to a warp can reach as high as 12%, though it is generally much less. An enzyme, applied properly, can do a thorough job of starch removal in six hours (and less) if the fabric has been thoroughly wet out and squeezed lightly to a wet pick-up of 100% and higher. (Wetting out may not be instantaneous; a high wet pick-up and wetting agent, however, assures wetting out during the lay-over.) It is assumed, of course, that temperature and pH of enzyming are under control.

What Caustic Does. Caustic soda, it is this writer's belief, acts primarily upon waxes and fatty ingredients of the warp sizing formulation. Starches and starch products can be solubilized in dilute caustic soda, but for their effective removal a more severe treatment is required under mechanical action at high temperatures. For best results with caustic soda, a prolonged lay-over, preferably overnight, is necessary. And its use should be restricted to loosely woven fabrics with yarns of low twist.

Regardless of the method used (whether enzyming or caustic steeping) the fabric must have certain altered characteristics by the time it reaches the boiling-off stage. It must have easy wettability, a noticeably cleaner appearance, a lighter color, and a decidedly softer hand. If these characteristics are lacking (they can be easily detected by the experienced man) an additional burden is placed on boiling-off.

A real purpose of boiling-off should be the removal of natural waxes and substances found in cotton, and the remaining warp-sizing materials. This calls for prolonged boiling-off in caustic soda (among other ingredients) at temperatures well above 180 F to be followed by thorough rinsing at high temperatures. There is one school of thought, however, that would disagree with the need for prolonged boiling-off, with or without pressure. What is more important than complete cleansing, this school of thought points out, is uniformity in the removal of impurities, but only to the degree that individual conditions demand.

From all this, it seems obvious to conclude that even at this late date cotton preparation is by no means a closed book. Certainly we have achieved a high rate of productivity by changing or eliminating traditional operations—but sometimes only with a compromise in quality. Real effort should now be directed toward making significant improvements, to upgrade the quality and hence the appeal of popular-priced cotton fabrics.

A higher degree of luster is perhaps the most obvious need. Today's mercerizing ranges, however, are not designed to improve luster. This desirable property has taken a subordinate position to high productivity.

You'll want to read these articles, too

Streamline purchasing for profit ..... page 55
The dyer looks at the salesman 60
The salesman looks at the dyer 61
Mill trucks: lease or buy? 64
New product parade 147

Sodium zinc phosphate glass, added at the water storage tank, protects the plant water system and prevents red water problems. Incidentally, the "silos" in the background are for blending wool.

Preventive Maintenance for Water?

Sounds like an off-beat idea, but at Rocky River Mills it helped to improve wool yarn quality, cut chemical costs

Exclusive

WHEN EVERY pound of yarn is processed by many gallons of water, the most important material at a typical woolen mill might well be considered water, rather than wool.

Such is the case at the Rocky River Mills of Bigelow-Sanford, Inc., Calhoun Falls, S. C. Rocky River is one of the South's largest producers of quality carpet yarns. It uses about 7½ million gallons of water per week.

The natural state of the water, when the plant first draws it from the Rocky River, is filled with problems . . . problems that must be solved before the water is used in boilers, wool processing equipment, air washers, cooling towers, hot water heating. The water is typical South Carolina river water. It flows through red clay, picking up large quantities of iron and suspended materials. It is never clear; the turbidity increases appreciably after a rainfall. And the rainfall in this area is 40" a year above the national average. Problems vary at different times of the year, also. For example, in the spring fertilizers, colors, lignins, and tannin wash into the stream in heavy doses.

Joseph Jervis, plant manager at Rocky River, says, "It is important to start our water treatment right from the beginning. We must remove iron and other metals from the water since these materials could weaken our dye baths and throw the colors off-shade. The water must also be treated to pre-

Steam coils in this dryer must be kept corrosion-free; 2 ppm of a condensate corrosion inhibitor does the trick for Rocky River.

vent equipment corrosion. We have been practicing preventive water maintenance since our plant opened several years ago, and are pleased to report that we have encountered little or no problems in our plant-wide water usage."

The water is initially treated with alum, soda ash, and ¼ ppm of Coagulant Aid #2*. This treatment has produced clear water with minimum floc carry-over to the filters under all raw water and flow conditions. Additionally, the use of this chemical, plus good water management, has reduced required dosages of alum and soda ash by 50%, amounting to a reduction of several hundred pounds of chemicals per day and significantly lower chemical costs.

Next, sodium zinc phosphate glass (Calgon Composition TG) is batch-fed at the plant water storage tank. This treatment forms a protective film on the metal surfaces of plant pipe lines and prevents corrosion.

In addition to process water, steam is used throughout the mill's scouring, dyeing, and drying operations. Steam heats the scouring water and is introduced into the dye kettles and expansion tanks. Dryers are heated with steam coils.

It is necessary to maintain a high degree of steam purity to prevent yarn staining and off-color dyeing. Dryer and steam condensate return line corrosion must be positively prevented. Suspended corrosion products (iron and copper) could be damaging to the process. High rates of heat transfer must be maintained in order to get optimum efficiency.

Two ppm of Hagafilm, a condensate corrosion inhibitor, are added to the steam. Concerning this, Mr. Jervis says, "Since using this product, we have had no corrosion downtime. Also, it does not affect the dyestuffs when it contacts them in our dyeing operations . . . an important consideration in maintaining the high quality of our dyeing."

The plant-wide preventive water-maintenance program is producing positive benefits in the operation of Rocky River Mills; benefits that include not only lower chemical costs, but continuous quality control of the wool yarn and important corrosion protection of vital plant equipment.

*A product of Hagan Chemicals & Controls, Inc.

Rise in colored sheet sales predicted for '61

Mills using findings of Vat Dye Institute survey in merchandise planning

■ INCREASED sales of colored sheets and pillow cases are predicted for 1961, according to officials of a number of domestics mills now carrying out merchandising plans to cash in on higher profit potential of color.

Almost without exception mills are featuring a wider number of colors in both solids and fancies in anticipation of the growing consumer interest in "sheet fashion."

Significant among mill plans is the use of documented findings of a recent nationwide survey conducted by The Vat Dye Institute, Inc., nonprofit association of U. S. dyestuff producers, which revealed a wide-open market for higher color sheet sales and indicated methods for capitalizing on the potential.

A special summary of the motivational and statistical research published in booklet form by the Institute was distributed by request to all domestics mills for study and use by merchandising executives. Several mills report inclusion of the findings into sales meetings, and also in information to retail buyers.

Cannon Mills, a pioneer in the field of color in domestics, plans extensive use of color for 1961. According to W. H. Mann, vice-president, figures released by the Vat Dye Institute substantiate findings of Cannon Mills in surveys they have conducted to discover consumer receptivity to color during the past few years. Lilac has been added to the growing Cannon color line. In addition to solids, which account for a sizeable portion of Cannon sales, several more prints on colored backgrounds will be added to the new line. Their packaging stresses colorfast guarantee on all colored sheets and pillow cases.

H. S. Taylor, manager of the Utica-Mohawk Division of J. P. Stevens Co., has "found the Vat Dye Survey educational and helpful." "We have felt and been aware for some time now the rapid growth expected in color, and are prepared for it," he continued.

Rise of lilac in popularity in domestics as well as other home furnishings items has been noted by Fieldcrest Mills which is adding it to its new line, according to Frank Larkin, assistant manager of the sheet department. Fieldcrest also notes drop in woven stripes in favor of prints and other fancies. "We have noted great acceptance of our coordinated groupings," Mr. Larkin commented, "in solid bottom sheets teamed with over-all prints in identical or harmonizing background color." Fieldcrest's color line now numbers nine shades: pink, blue, yellow, green, aqua, biege and the newest colors—lilac, apricot, and ebony. Newly revised tags on the Fieldcrest line which stress the color fast qualities in washing are a result of the Vay Dye Institute survey.

Pepperell Manufacturing Co., Indian Head Mills, Dan River Mills, Springs Mills, Wamsutta and Pacific Mills (both divisions of M. Lowenstein & Sons, Inc.), and Minot Hooper Co. are also said to be planning practical application of survey results by intensive promotion of color during the coming months.

The Institute showed in a nationwide survey conducted among consumers earlier this year that more than 50 per cent of American households do not own colored sheets and pillow cases. Of the homes who do own colored domestics, only 36 per cent buy color regularly for themselves; the others received colored sheets and cases as gifts.

A follow-up poll of August "White" sales results in leading department and specialty stores in 10 key markets further indicated that colored sheet users buy more often, because —although sales generally were down —sales of colored sheets and cases were up in every instance.

Busiest Line in Washable Reds!

AMANIL* NAPTHOLS and fast color salts and bases

Radiant, wash-fast reds that have become the standard of comparison in successful Napthol dyeing. Combinations assuring extensive shade variety throughout the red range and into gold. Perfect for red cotton rugs, toweling, shirtings, sportswear, corduroy. Outstanding for light fastness. For expert help with the Napthol process, write or call your Koppers representative at our nearest branch.

*REG. U. S. PAT. OFF.

VMA 7800

KOPPERS COMPANY, INC.

CHEMICALS AND DYESTUFFS DIVISION

Pittsburgh 19, Pennsylvania

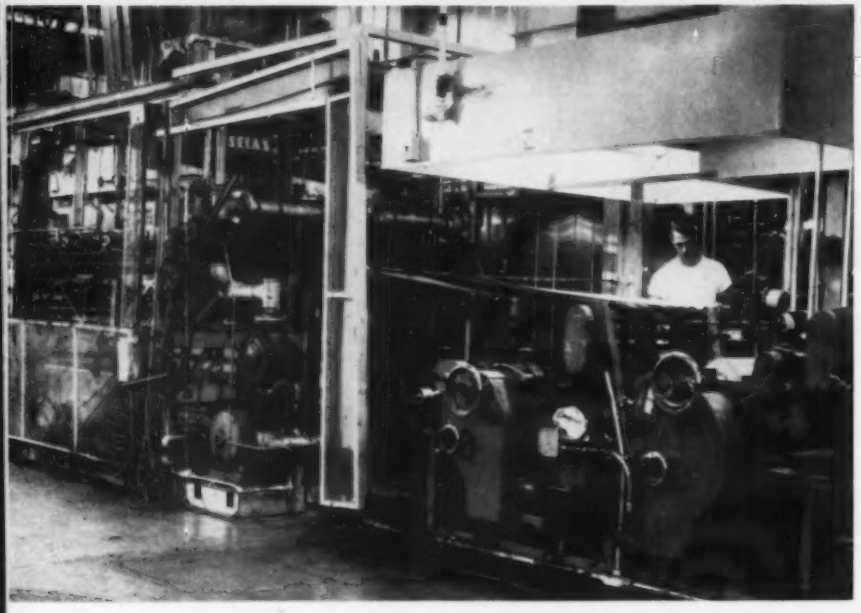
PLANT: Lock Haven, Pa.

BRANCHES: Providence, R. I. • Los Angeles, Calif. Paterson, N. J. • Chicago, Ill. • Charlotte, N. C. Chattanooga, Tenn. • Columbus, Ga.

IN CANADA: Dominion Anilines & Chemicals, Ltd., Toronto, Canada • Montreal, Canada

KOPPERS

Two-unit radiant-heat oven is only 7 ft long, permits compact coating and drying process.



Dryer ups output 45%

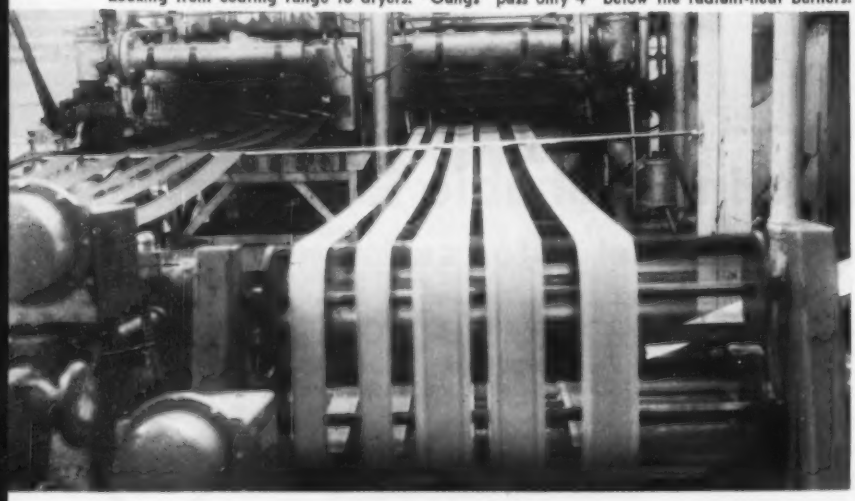
Change to radiant heat also cut floor space 85%

by **Kenneth C. Schlegel**
President
Schlegel Manufacturing Co.

Exclusive

WE RECENTLY constructed an ultra-modern plant in Rochester, N. Y., to meet an increased demand for our windlace and woven pile weatherstripping, used in automobiles, buildings, aircraft, boats, and air-conditioning units. Production, research, and engineering facilities of the latest design were included. The plant was built for precision processing of assemblies, complete from yarn to finished product, under one roof.

Looking from coating range to dryers. "Gangs" pass only 4" below the radiant-heat burners.



One interesting innovation is the new space-saving method we use for drying white and black latex coatings on stripping, and Geon-nitrex coatings on laces and seals. Previously, a 120-foot electric oven was used to handle these critical drying operations. Now, a completely automatic, 7-foot, gas-fired oven, installed in two halves side by side, is doing the job. The 85% floor space saving realized has helped immeasurably in streamlining and integrating this operation into the production line.

Despite the relatively small size of these two units, we have been able to increase the speed of drying laces, seals, and weatherstripping by 45%. At the same time this production rate gain was put into effect, a 60% fuel saving on the drying operation was also realized.

The different types of fabric that require coating and drying—made of wool, cotton, or nylon, or any combination of the three—are first woven on narrow fabric looms. Next, after going through a splitter and a slitter, the stripping (or "gangs") is pulled through a coating process on rolls and into the two oven units for drying.

Dryer Operation. The ovens were so constructed that either one can be operated independently of the other, or they can both be operated simultaneously. The 25-inch wide platform in each oven section was designed to accommodate six gangs, varying from 2¾ inches to 4 5/16 inches in width, totaling twelve gangs for both on a full production run. This is twice as many as our former dryer accommodated. Traveling at approximately 88 to 90 fpm, the gangs are pulled through the ovens in 11 seconds. A full minute was required to pull gangs through the old oven.

The radiant heat of the ovens is supplied by four rows of burners in each roof, only 4 inches above the moving gangs. Temperature is accurately held at approximately 900 F for the drying job and synchronized with the

BULLETIN:

On August 27, 1960, Shell Chemical originated tank truck shipments of hydrogen peroxide in the South to save your company money regardless of its size.

If you are presently buying in drums, read how you can eliminate drum deposits and take advantage of low bulk prices on quantities of 1000 gallons or more.

If you're already buying in bulk, read how Shell Chemical's over-the-road delivery can lower your inventory costs and give you faster service at no increase in price.

THANKS to Shell Chemical, you can now buy hydrogen peroxide throughout the South at *tank car prices* and *over-the-road* convenience.

How drum users save

If you are presently buying 35% or 50% hydrogen peroxide in drums, you can save two ways.

Let's assume your current consumption is 40 drums a month of 35%. The immediate benefit from Shell's tank truck delivery is a $1600.00 increase in working capital by eliminating drum deposits. At the same time you will do away with the bookkeeping, handling and general nuisance of returning drums.

Major benefit: $4500 a year

But the major benefit, of course, is to give you low bulk prices *even if you don't have a railroad siding.* You can buy in quantities of as low as 1000 gallons a shipment. Again using 40 drums of 35% a month, your cash savings can amount to over $4500 a year. At this rate you could pay for excellent storage facilities in 8 months. Everything after that would be pure gravy.

How present bulk users save

Now let's assume you're already buying in bulk. What can Shell's tank truck delivery do for you?

First, it can free 1500 gallons of working capital every time you buy. Instead of taking 4000 gallons at a time, you can take 2500 *at the same low price.* Or you can take as little as 1000 at a very modest increase. Figure for yourself what this can mean in the course of a year.

Every part of the South

The second advantage to current bulk users is faster delivery. Even the most remote part of the South is within two days' drive from Shell Chemical's hydrogen peroxide plant in Norco, Louisiana.

Storage help from Shell

If you do not have storage facilities, you can buy the best on the market for about $3,000. Shell will help you with every step of the installation. That's part of the original tank truck plan as Shell conceived it.

For complete information, contact Shell Chemical's district office in Houston (CApital 2-1181) or Atlanta (JAckson 5-7621). Call today. The tank trucks are rolling. Let them roll your way with savings.

A Bulletin from

Shell Chemical Company

SHELL

Industrial Chemicals Division
110 West 51 Street, New York 20, N.Y.

Which of these 5 products and services can you use... from

BECCO

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

FOOD MACHINERY AND CHEMICAL CORPORATION

Becco Chemical Division
STATION B, BUFFALO, NEW YORK

Solve Dye Problems with BECCO Silicate-Free Bleaching

"We dyed half a million yards this week... with no rejects!"

So reports a new user of Becco Silicate-Free Bleaching Process,* who previously suffered up to 25% rejects.

When complex silicates of calcium and magnesium formed scale on equipment and left resistant residues in the cloth, a Becco Sales Engineer studied the situation, and recommended Silicate-Free Hydrogen Peroxide bleaching solutions which eliminated the problem.

Silicate-Free bleaching won't answer every textile bleaching problem. But chances are one Becco process or another will. If you need help, use the coupon below to request a Sales Engineer's call. Also, ask for your free copy of Bulletin No. 71, "Continuous Bleaching of Cottons with Silicate-Free Peroxide Solutions".

*U.S. Patents 2,740,689 and 2,820,690

BECCO fmc

BECCO CHEMICAL DIVISION, FMC
161 East 42nd St., New York 17, N. Y.
Dept. TI-A

Gentlemen:

☐ Please send a free copy of Becco Bulletin No. 71.

☐ Please have a Sales Engineer call.

NAME_____

FIRM_____

ADDRESS_____

CITY_____

ZONE____ STATE_____

Problems in handling Hydrogen Peroxide

?

Becco's Four-Fold Engineering Service Program—offered free—includes:

1. Comprehensive survey of your facilities.
2. Specific proposal with recommendation of proved equipment and where it is obtainable.
3. Installation supervision by Becco.
4. Periodic inspection and permanent service.

Can you use this free Becco help, based on more years of experience with bulk handling of H_2O_2 than any other manufacturer? Use the coupon to let us know.

BECCO fmc

BECCO CHEMICAL DIVISION, FMC
161 East 42nd St., New York 17, N. Y.
Dept. TI-B

Gentlemen:

Please tell me more about your Four-Fold Engineering Service.

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FIRM_____

ADDRESS_____

CITY_____

ZONE____ STATE_____

What's a PEROXYGEN?

Fact is, "peroxygen" is a word that Becco uses to indicate that we can tie oxygen onto just about anything.

How come? Well, years of experience in producing Hydrogen Peroxide has produced an affinity between Becco and oxygen — an affinity we have capitalized on to give you compounds that will provide a ready source of oxygen — wherever, however and whenever you need it.

We have a good number of such compounds on the shelves. Quite a few others are in development. Still others are merely in our minds, but we can begin drawing them out if you're interested.

We hope you are interested. But we'll never know—unless you fill in the coupon below and mail it to us. Why not?

BECCO fmc

BECCO CHEMICAL DIVISION, FMC
161 East 42nd St., New York 17, N. Y.

Dept. TI-D

Gentlemen:

Send me more information about Becco Peroxygen Chemicals.

NAME_____

FIRM_____

ADDRESS_____

CITY_____

ZONE____ STATE_____

"Enclosing $1.00 — Send Patent License"

Well, perhaps there's a little more to your gaining use of Becco patents than just mailing your dollar in, but not much more. And certainly, no more money. The $1.00 really does cover it.

Becco has lots of patents, granted as a result of innovations in the use of Hydrogen Peroxide and other Peroxygen chemicals developed in Becco's Research Laboratories. But they don't do us a whole lot of good locked tightly in our safe. So, we long ago adopted the following policy:

If one of our patents can help you, we'll be glad to license the rights to you **perpetually**, for just one dollar. You get a nice certificate, incidentally, to cover the legalities, but more important — you also get free our complete engineering help in setting up your process, handling the material, maintenance, etc., etc.

What do **we** get? You as a **customer** — we hope — but there's no obligation on your part. Just seems to work out that way, though — when we know enough about a particular peroxygen to hold a patent on its use, chances are we've also learned enough to produce it purer than anyone else. You benefit from this; we do, too.

Use the coupon below to ask for a Sales Engineer — or our list of patents — that may help you solve an important problem.

BECCO fmc

BECCO CHEMICAL DIVISION, FMC
161 East 42nd St., New York 17, N. Y.

Dept. TI-F

Gentlemen:

Please send your list of patents available on the use of

- ☐ Hydrogen Peroxide
- ☐ Peroxygen Chemicals
- ☐ Persulfate Chemicals

☐ Please have a Sales Engineer call.

NAME_____

FIRM_____

ADDRESS_____

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ZONE____ STATE_____

TECHNICAL BULLETINS

We got 'em—
You can have 'em!
They're FREE!

Years of experience in textile processing have produced a library of technical information which is available in individual bulletins, free on request. Use the coupon below to let us know which you'd like to receive.

No. 29 — Hydrogen Peroxide Dry-In Process for Bleaching Wool.

No. 35 — Modification of Wool with Peroxygen Compounds.

No. 43 — Treatment of Cellulose and Cellulose Derivatives with Peroxygen Compounds.

No. 52 — Bleaching with Some Peroxygen Chemicals.

No. 53 — Fluorescent Agents in Peroxide Bleaching of Knit Goods.

No. 60 — Successful Bleaching of Types 670 and 200 Nylon With Peracetic Acid.

No. 61 — Knit Goods Bleaching Range.

No. 71 — Continuous Bleaching of Cottons with Silicate-Free Peroxide Solutions.

No. 75 — Oxidation of Dyes On Cottons and Synthetics with Peroxygen Chemicals.

No. 88 — Progress in the Art of Bleaching.

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Gentlemen:
Please send me a copy of each of the following bulletins:

— — — — — — — —

NAME_____

FIRM_____

ADDRESS_____

CITY_____

ZONE____ STATE_____

Time out for lunch! Press of switch has turned off burners and lowered platform that gangs travel on through ovens. Micro Switches automatically do the same if a gang twists and might not go smoothly through ovens. Selas Corp. of America designed and built the units.

speed of the conveyor. Correct relation of conveyor speed to temperature is automatically governed by temperature indicator and conveyor speed controller panel-mounted instrumentation.

Further assurance of safe, precision drying, without a twisted gang here or there coming too close to the burners, is provided by an ingenious feeder roll system. The gang feeder roll is automatically controlled and regulates the ovens' burners and platforms by means of Micro Switches. If a gang should become tangled along the line and threaten smooth passage through the oven, the switches are actuated as the gang passes over the feeder roll. They immediately turn the burners off and at the same time lower the platforms on which the gangs are traveling, to a safe level.

The precise temperature control in the ovens and quick response of burners to on-or-off switching are made possible by an automatic fuel-proportioning unit. This takes natural gas from the low pressure plant line, draws air from the room, mixes the two, and compresses them to several pounds pressure for delivery, at pre-set ratio and pressure, to the burners.

The burners create radiant heat by burning these closely controlled gas-air mixtures against special cup-shaped refractory surfaces and beam the radiant heat to the strips of fabric.

Greater speed in the drying operation is being achieved by a combination of the high thermal head and close proximity of the heat source to the gangs. Such proximity is possible for the few seconds it takes to dry the coating on the gangs because the burners produce no harmful flame impingement, combustion being completed entirely within each refractory cup.

After coating and drying, the gangs are pulled from the two oven sections and, where necessary, are cut into the different widths in which they will eventually be used. The coating and drying gives the stripping body, keeps its uniform shape, and makes it easier for operators to handle.

About 60% of Schlegel woven pile weatherstripping must be coated; enough weatherstripping to equip all the windows and doors of over 11,000 cars and seal every door and window in over 400 average homes is being coated and then dried in these two oven sections every day.

How Burlington Industries supports higher education

■ "THE SUPPORT of higher education by business and industry is no longer an option but a necessity," according to the chief executive of the nation's largest textile company.

Spencer Love, chairman and president of Burlington Industries, makes the statement in his foreward to a new brochure, "A Program for Aid to Education," just published by the Burlington Industries Foundation.

"The direction our civilization will take is dependent upon the ability of our educational institutions to train young men and women for their responsibilities as tomorrow's leaders," Mr. Love states. "If we are to continue to press the attack on poverty, ignorance, and disease, we must use all available means to improve our educational processes."

The Burlington Industries Foundation, established in 1943, set forth a formal aid-to-education program in 1955. It has now been expanded to include eight major phases:

1. Matched Employee Giving—Gifts of employees and directors to educational institutions are matched up to $2,500 per person per year.

2. Educational Loans—Over 1,000 Burlington employees and their children have received Foundation loans to assist them in obtaining a higher education.

3. Matched Tuition—Unrestricted grants are made each year to the schools selected by Burlington Educational Loan Fund students. These grants are equal to the tuition fees, but do not exceed $500 per student.

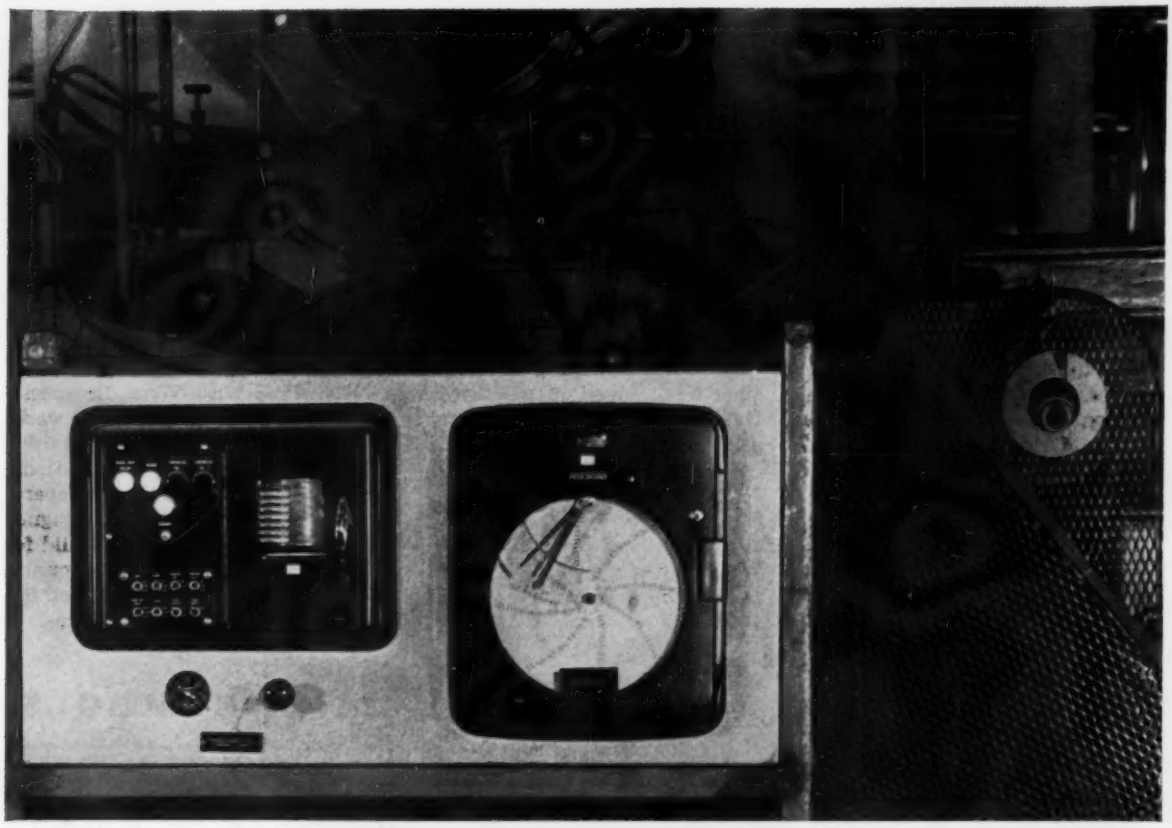
4. Scholarships — Scholarships of $1,000 each are awarded by 16 institutions to junior and senior students, payable $500 annually.

5. Matched Scholarship Grants — Schools which award unrestricted scholarships also receive an identical amount to use as they wish.

6. Fellowships—J. Spencer Love Fellowships are made available at the Harvard Graduate School of Business Administration to young men from southeastern educational institutions.

7. Professorships — Several Burlington professorships have been established in the field of business administration, textiles, and home economics.

8. Direct Grants—Grants are made to assist a major financial need or to further the cause of education in a field of study or research.



New Foxboro Control System makes cloth washing completely automatic!

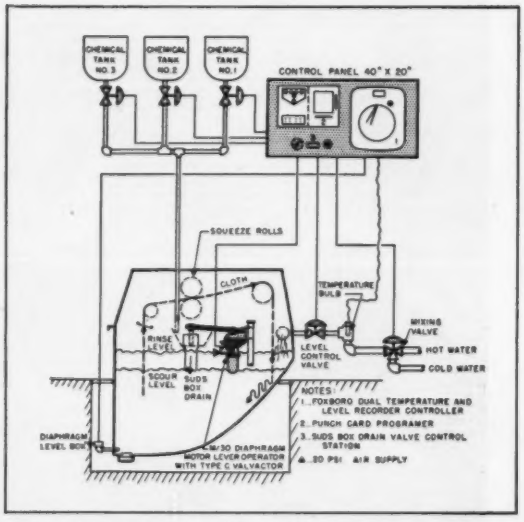
Now you can scour and rinse cloth goods just as simply as your wife does the family wash at home — but with continuous chart records for proof!

A Foxboro Dolly Washer Control System automatically handles the entire washing cycle. It programs the scouring and rinsing operations, adds scouring chemicals, controls rinse water temperatures, controls washer levels . . . even operates suds box drain-off valve.

Everything is completely automatic — everything programmed to the requirements of your mill and your materials. Fast, accurate prepunching of time cycles is assured by the one-minute time marks printed on the 12-inch program card.

In addition, the Foxboro Model 40 Recorder Controller continuously provides you with a written record of temperature and level — proof of uniform treatment, increased production, improved cloth quality, as well as savings in chemicals, water, and steam.

Ask your Foxboro Field Engineer for full details. Or write for new data sheet 220-201. The Foxboro Company, 482 Neponset Avenue, Foxboro, Massachusetts.



Schematic diagram of Foxboro Dolly Washer Control System.

FOXBORO

REG. U. S. PAT. OFF.

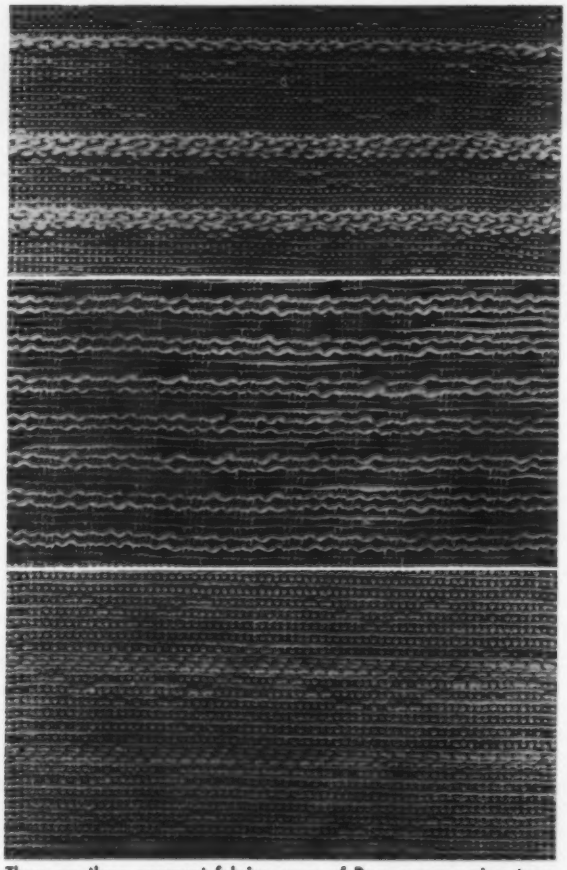
COLORING, BLEACHING, AND FINISHING DEVELOPMENTS

Wool Finishing. An English concern has announced development of a new shrinking and finishing process for wool fabrics, said to retain its desirable properties throughout making up of the garments. A combination and manipulation of heat, pressure, and moisture, along with certain chemical agents, are used to provide the desired luster and hand.

Waterproofer. A new fabric coating which is applicable to all types of materials can make them water repellent or waterproof, depending on the fabric and the weight of coating applied. The transparent synthetic polymer has excellent adhesion properties and features resistance to wear, stiffening, and softening in use. Garments fabricated of the coated materials may be washed or dry-cleaned without seriously affecting water-protective qualities.

Bleaching Hair. Details have been disclosed by a Massachusetts company of a process developed in their laboratories for the bleaching of black and brown hair in all-wool fabrics. The procedure entails use of "Dercol," a special mordanting assistant which was developed by the laboratory, followed by peroxide bleaching.

Washing Wash-Wear. Do special "wash-wear" cycles in home washing machines get clothes clean? Probably not, says the National Cotton Council—water temperatures and washing action, designed for the synthetics, are too mild for effective cleaning. So the council, in cooperation with the Cotton Research Committee of Texas, is



These are three casement fabrics woven of Rovana saran micro-tape, Verel modacrylic fiber, and rayon, by Virginia Fibre Corp. for Spectrum Fabrics. From top to bottom: "Rheims," a horizontal bouclé with a Rovana warp and filling of Verel and solution dyed rayon; "Rex," an open casement fabric with the same fiber content; and "Rajah," a slub texture, also with Rovana warp and Verel-rayon filling.

SURE CARE SYMBOLS
Follow these symbols to WASH or DRY-CLEAN and IRON your clothes or home furnishings with satisfactory results. Look for the labels with these simple guides to happier washdays.
you may wash by machine or by hand
B
use bleach carefully
do not use bleach
you may dry clean
do not dry clean
wash by hand
do not wash
may be ironed
do not iron
RECOMMENDED WASH TEMPERATURES:
160° hot water with any soap or detergent
120° medium hot water with any soap or detergent
105° warm water with mild soap or mild detergent
CW use cold water; it lessens the danger of staining and shrinkage
WS wash separately; it lessens the danger of staining and shrinkage
H hot iron
M medium hot iron
C cool iron
S steaming iron
L little or no ironing
TD you may tumble dry
DD drip dry
DR dry rapidly (for example remove excess moisture between towels)
LD hang on line to dry
DF dry flat
HERE ARE HOW THESE SYMBOLS MIGHT LOOK ON LABELS, WHAT THEY TELL YOU.
TD
160° B
H
Wash by machine or by hand in hot water with any soap or detergent. Use bleach carefully. Tumble dry. Do not dry clean. Iron with hot iron.
120°
L
Wash by hand in warm water with any soap or detergent. Do not bleach. Dry clean. Little or no ironing.
DR
105°
Wash by hand in lukewarm water with mild soap or detergent. Do not bleach. Dry rapidly. Dry clean. Do not iron.

These "conventional symbols" are proposed by National Retail Merchants Association as a solution to the problem of consumer education in proper washing and cleaning procedures for garments. The symbols as shown would be imprinted somewhere on the garment; they would appear as seen in the examples at the bottom of the picture, to be interpreted by the customer as indicated at the right.

A staple in textile manufacturing, NEKAL NF is an anionic liquid known for high quality and all-round efficiency as a wetting and penetrating agent. The news is: *the wetting ability of Nekal NF has been stepped up 50%* with no loss of efficiency in these other important directions...

- *chemical stability to alkalis, acids, hard water, etc.*
- *compatibility with the various dyestuffs*
- *level dyeing characteristics*
- *low foaming properties*

Nekal NF, an alkyl naphthalene sulfonate, may be used with confidence in continuous padding and long-liquor dyeing with vat, sulfur, and direct colors...also in package, beam, hosiery, jig, and other types of dyeing operations on various yarns and fabric constructions.

For further information and samples, get in touch with any General Dyestuff Company office.

FROM RESEARCH TO REALITY

GENERAL DYESTUFF COMPANY

A DIVISION OF

GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

SALES OFFICES: Charlotte • Chattanooga • Chicago • Los Angeles • New York • Philadelphia • Portland, Ore. • San Francisco • In Canada: Chemical Developments of Canada Ltd., Montreal

Nekal wetting agents manufactured by General Aniline & Film Corp. are sold outside the United States, by distributors all over the world, under the trademark "Humifen."®

sponsoring a research project at the Texas Women's University, to determine the best conditions for laundering cotton wash-wear garments at home.

Dyeing Latex. Latex backings for fabrics can be dyed the same colors as the fabrics through a technique developed by U.S. Rubber Co. scientists. "Color acceptors" are blended into the standard latex compounds to modify them so that they will accept the standard dyes used on nylon, acetate, and other fibers. The company reports that latex backings have been dyed substantially the same shade as the fabrics in production runs.

New Coloring Method. A method for producing subtle designs on fabrics by exposing selected por-

Resin Finishing Cotton Knits—Progress and Problems

■ THE APPLICATION of resins to cotton knitted fabrics, as a means of controlling shrinkage, is now well recognized as a sound technological development. Since the earliest plant trials were run, in about 1953, improvements in resin properties and advances in equipment design have been forthcoming to give the industry a solid foundation for growth.

Though resins are not the complete answer to the industry's age-old problem of shrinkage, nevertheless they offer a sound means of controlling shrinkage to a degree not possible in the past.

Application of resin calls for three steps: impregnation-padding, presetting (drying to proper dimensions), and curing. In the more efficient processing routines, the first two steps are combined for continuous operation. The equipment for all three steps, incidentally, is designed specifically for processing tubular knitted fabrics. This is indeed evidence that the machinery manufacturers who have entered the field view the future of resin finishing with much optimism.

There is no doubt that resin finishing has grown. In the last few years an increasing number of plants have entered the field, and the process has been extended to a wider range of apparel fabrics, largely through improvements in resins and auxiliary products. Today there are available resins of greater durability, with resistance to chlorination, and numerous auxiliary products such as stain-resistant finishes, purifying agents, and hand-modifiers. Much work has also been done to improve smoothness of fabric after laundering and drying.

From the beginning, resin finishers and fabric designers alike knew that some limitations exist in achieving shrinkage control. Moreover, resin finishing is accompanied by some losses in tensile strength—a shortcoming, however, that is also common to resin finished woven cottons. Practical studies have by now shown that fabric construction—or such factors as yarn size, ply, quality, and stitch—can influence degree of shrinkage. A fabric designed soundly for resin finishing will not only promote a lower percentage of shrinkage but it will withstand the loss in tensile strength.

While much work has been done in these areas by quality knitters and finishers toward improving quality, problems still exist. With respect to shrinkage control, an additional problem stems from the fact that the industry has not yet adopted a universal shrinkage testing procedure.

THOUGH IT IS difficult to generalize about the degree of shrinkage that can be achieved, there is agreement among many resin finishers that about a 50% reduction can take place. In tightly knitted structures of good quality, for example, shrinkage can be less than 3% (measured in both directions of the fabric), which is in the region of compressively shrunk woven cotton fabrics. However, shrinkage runs somewhat higher than 3% as a rule, perhaps around 6-9%.

For some end uses even a higher shrinkage might not be objectionable, because the knitted structure possesses a degree of restorability, a property which enables it to return quickly to comfortable wearing dimensions. One finisher states that shrinkage percentages in his plant generally run in the neighborhood of 5 x 5, 6 x 8, and 7 x 9. Shrinkage in length is more important and effort is made to keep it as low as possible. It is questionable whether complete elimination of shrinkage is desirable in the knitted structure, however, for it is known to create the problem of "bagginess."

Without stating the conditions of laundering, drying, and measurement, shrinkage test results can be meaningless. The method of drying is particularly critical. Tumble drying is more severe than air drying, and there can be little if any similarity between the two methods.

Even though such variables exist, reproducible measurements can be obtained. But as yet the industry has not adopted a procedure. That is not to say, however, that individual mills have not been aware of the variables affecting test results. For among them there has been a tendency to develop testing procedures which are suitable for their own purposes. However, these testing procedures vary in severity of laundering, in method of drying and measurement, not to mention in number of laundering and drying cycles, to make an individual mill's test results hardly meaningful for the entire industry.

A contribution could come from the adoption of a universal shrinkage testing procedure, one that would be both reproducible and meaningful. This would not only clear up the confusion that now exists, but it would also provide the industry with an accurate means of assessing its progress on an industry-wide basis.

In the other troublesome area of resin finishing, that is, loss of strength, not a great deal can be done in finishing, aside from following sound practices in formulation and application as they pertain to a given resin class and fabric. The chief contribution toward keeping losses from affecting the ultimate usefulness of the garment must come from a closer liaison between designers and finishers. This calls for full recognition of such limiting factors as quality, yarn size, ply, and stitch.

No doubt resin finishing places a restriction on designing, for in the changeable apparel markets, texture, surface effects, and construction are all-important aesthetic qualities. But at the present stage of resin finishing this is a restriction which the designer cannot ignore. It is a restriction which quality knit goods merchandisers have not been ignoring.

Harshaw Diversified Products for the textile industry

ORGANIC PIGMENTS

For cotton printing and dyeing

DYESTUFFS

Disperse • Alizarine • Chrome • Acid

SHARPRINT CARRIER

Trademark

For maximum results on polyester fibers, many printers find the addition of Harshaw Sharprint Carrier to their disperse printing pastes solves the difficult problem of low color yield and lack of sharpness.

NF AND TECHNICAL

Tannic acid • Pyrogallic acid
Gallic acid • Benzoquinone

For more information about the items listed above write to:

ZINSSER DIVISION
The Harshaw Chemical Company
Hastings-On-Hudson 6, N.Y.

ZINC FLUOBORATE 40%

Zinc Fluoborate finds use as a curing agent for "wash and wear" finishes on textiles. Advantages claimed for Zinc Fluoborate as a curing agent include: (1) short curing time—one to two minutes at the curing temperatures required; (2) high crease resistance; and (3) low chlorine retention. Users also report that there is less tendency for polymerization to occur in the bath when Zinc Fluoborate is used.

ZINC NITRATE FLAKE

Harshaw Zinc Nitrate Flake is especially suited for polymerizing resins currently being used for wrinkle-free and wash-and-wear fabrics.

TYPICAL AVERAGE ANALYSIS

Zn	25.20%
FE	0.001%
Pb	0.005%
H_2O Insoluble	.008%
pH of 5% solution	5.1%

For more information about the items listed above write to:

THE HARSHAW CHEMICAL COMPANY
1945 East 97th Street
Cleveland 6, Ohio

HARSHAW

tions of these fabrics to light or by treating these portions with chemical agents has been reported by American Cyanamid Co. In one example of the technique, a stencil design was placed over a wool fabric, which was then exposed to light long enough to alter the dyeing characteristics of the exposed portions. When the fabric was dyed, the exposed areas were a deeper shade than the unexposed areas. In another example, a stencil was applied to a wool fabric and then a hypochlorite solution was applied to the unexposed areas. Depending on whether the hypochlorite solution was acidic or alkaline, the exposed portions would then dye lighter or darker than the unexposed. Similar designs, in an iridescent effect, were produced on acetate by taking advantage of the delustering effect of ultraviolet light.

Finishing for Resilience. Twelve textile mills, finishers, and chemical manufacturers, plus the National Cotton Council, are continuing for another year their sponsorship of research to improve the resilience of cotton through chemical finishing. A total of $45,000 is available for the continuation of the study at the Textile Research Institute. More basic research is said to be needed to further improve cotton's resiliency.

Lot of Rolls. H. W. Butterworth & Sons Co. recently completed the 36,000th pressed roll produced for the textile industries by the company and its affiliates since its founding in 1885. The company combines the experience of Textile Finishing Machinery Co., Granger Foundry & Machine Co., Rusden Machine Co., and Phoenix Iron Foundry.

New Dyes, Chemicals, and Services

Pigment Know-How. A new program designed to permit textile printers to produce their own oil-phase and water-phase pigment printing colors, and thereby to realize substantial savings in their printing operations, has been announced by Solitone Laboratories, Inc.

Nylon Fixing Agent. An organic condensate, "Cenekol NCS," is being marketed by Althouse Chemical Co. for use as a fixing agent in dyeing and finishing nylon. Said to greatly increase wash-fastness of neutral-acid-type dyes, it is claimed to be highly soluble in the presence of electrolytes, and can be added directly to the dyebath after the dyeing is about to shade.

New Acid Blue. Alizarine Fast Blue RFE, a new bright reddish blue acid dye, suitable for dyeing and printing, has been introduced by Ciba Co., Inc. Advantages claimed are excellent wash- and lightfastness on wool, silk, and nylon, and brightness.

Softener. "Sonofin 3639A" is a nonionic softener in the form of a white liquid, said to be compatible with a wide variety of finishing agents, including resins, catalysts, dyes, and dye fixatives. Its manufacturer, Sonneborn Chemical and Refining Corp., recommends it for use in package dyeing machines, and for warp sizing of synthetic yarns.

Dextrins. Cold-water-soluble borated dextrins are being marketed under the brand name Koldex 20, 30, and 40, with the number designating the per cent solids content necessary to produce liquid adhesives in the 1,000-1,500 centipoise range at 80 F. Developed by A. E. Staley Co., they are being promoted on the basis of uniformity, stable viscosity, light color, versatility, and ease of preparation.

New Fiber Reactives. Latest additions to Ciba's line of Cibacron fiber reactive dyes are Brilliant Orange G, offering ease of washing away unfixed color; Brilliant Blue C4GP, giving a shade new to the Cibacron line; and Scarlet 4GP, with purity and brilliance approaching orange in shade. On cellulosics, dyeing by batch-wise exhaustion is recommended for the orange, thermofixation and single-pad steaming for the blue, and padding for the scarlet.

1960 textile imports will set all-time record—ACMI

■ TEXTILE imports for 1960 will set all-time records in virtually all categories, according to the American Cotton Manufacturers Institute.

The imbalance of imports over exports of textile manufactures will also reach a new high of 39 per cent during 1960. Imports of textile manufactures exceeded exports by six per cent in 1958 and by 32 per cent in 1959.

The 1960 imports estimates are projected from U. S. Department of Commerce data on textile imports through October. New highs are estimated to be established in the importation of textile manufactures, cotton manufactures, cotton cloth, cotton yarn, woven wool cloth, and apparel.

Imports of all textile manufactures during 1960 are estimated at $954 million, an increase of 14 per cent over the 1959 volume and 50 per cent over 1958.

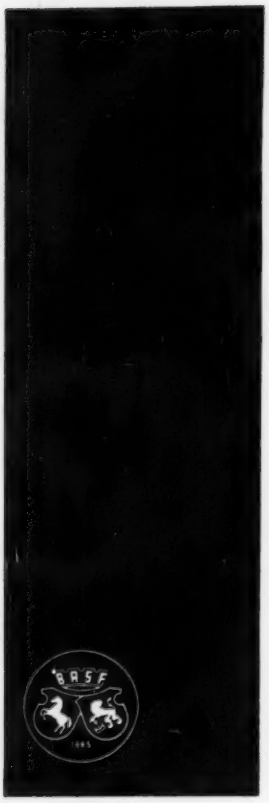
Imports of semi-finished and finished cotton manufactures in 1960 are estimated to be $273 million, up 31 per cent from a year ago and 76 per cent greater than 1958.

Cotton cloth imports have maintained a sharp increase, and the estimated 472 million sq yd in 1960 will be 96 per cent greater than the volume imported in 1959. Since 1958, cotton cloth imports have increased more than 230 per cent.

The estimated 1960 volume of cotton yarn imports, 16 million lb, will be approximately 15 million lb above the total imported in 1959. This is an increase of approximately 1,500 per cent.

Imports of woven wool cloth have been as precipitous as imports of cotton cloth, with estimates of 61 million sq yd of woven wool cloth imported this year. This is an increase of 30 per cent above 1959 totals and 79 per cent over 1958 totals.

PUTNAM PRODUCTS FOR THE TEXTILE INDUSTRY



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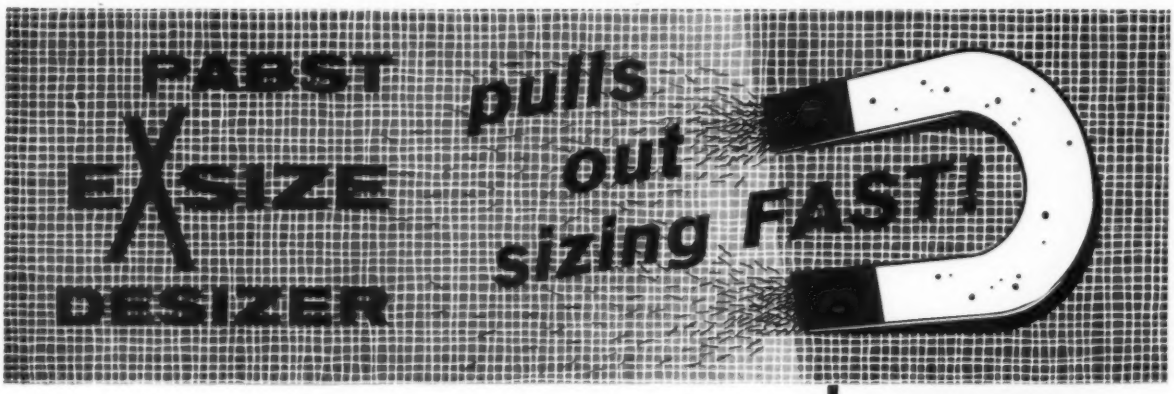

Pabst Exsize takes the starch out of cotton fabrics in a hurry! That's because its built-in heat stability makes Exsize work especially well in high-speed desizing ranges. It's uniform too. Every lot is carefully controlled for uniform enzyme activity and always gives you the same safe, speedy action. Order Exsize soon for the best finishing you've ever had.

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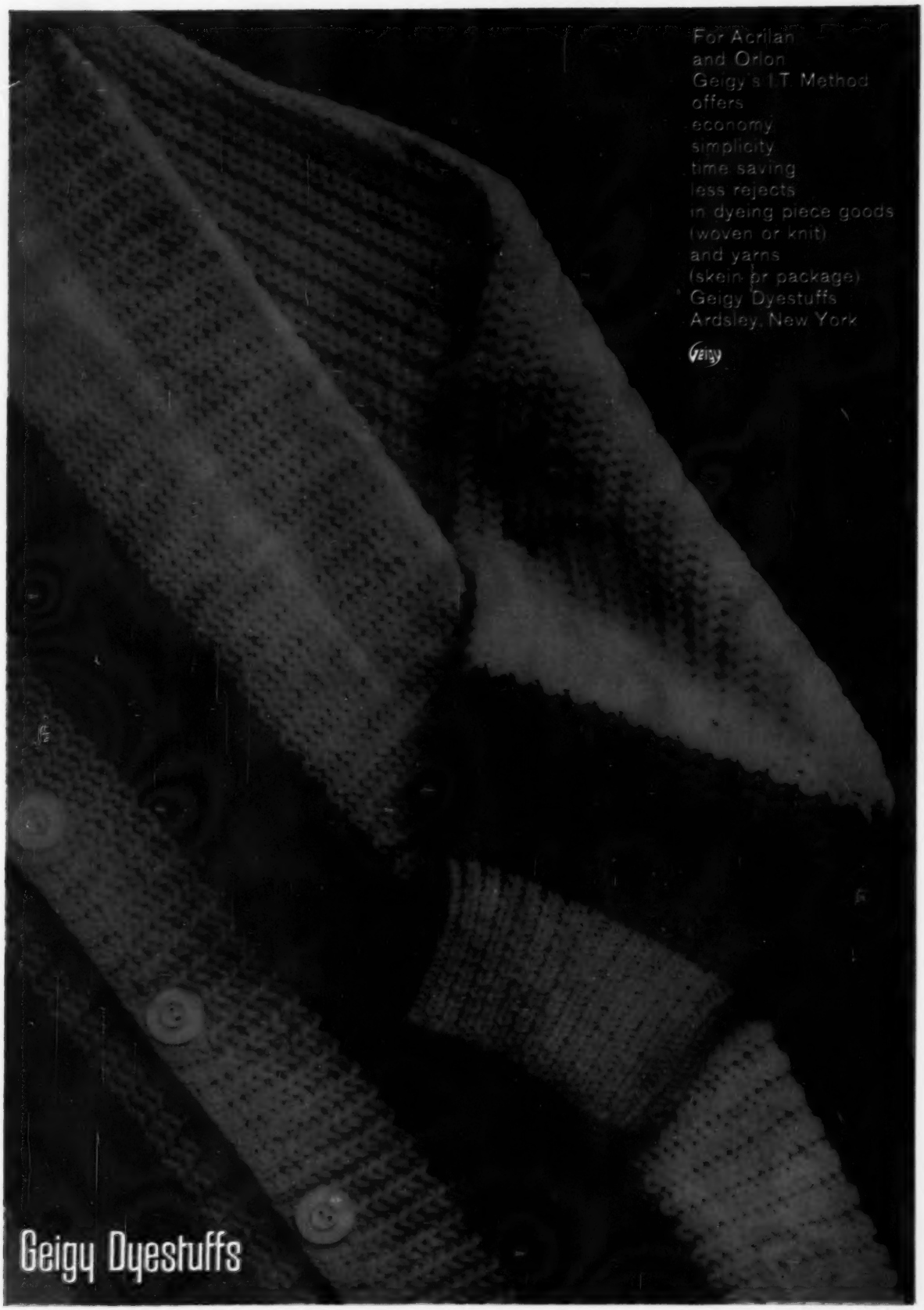
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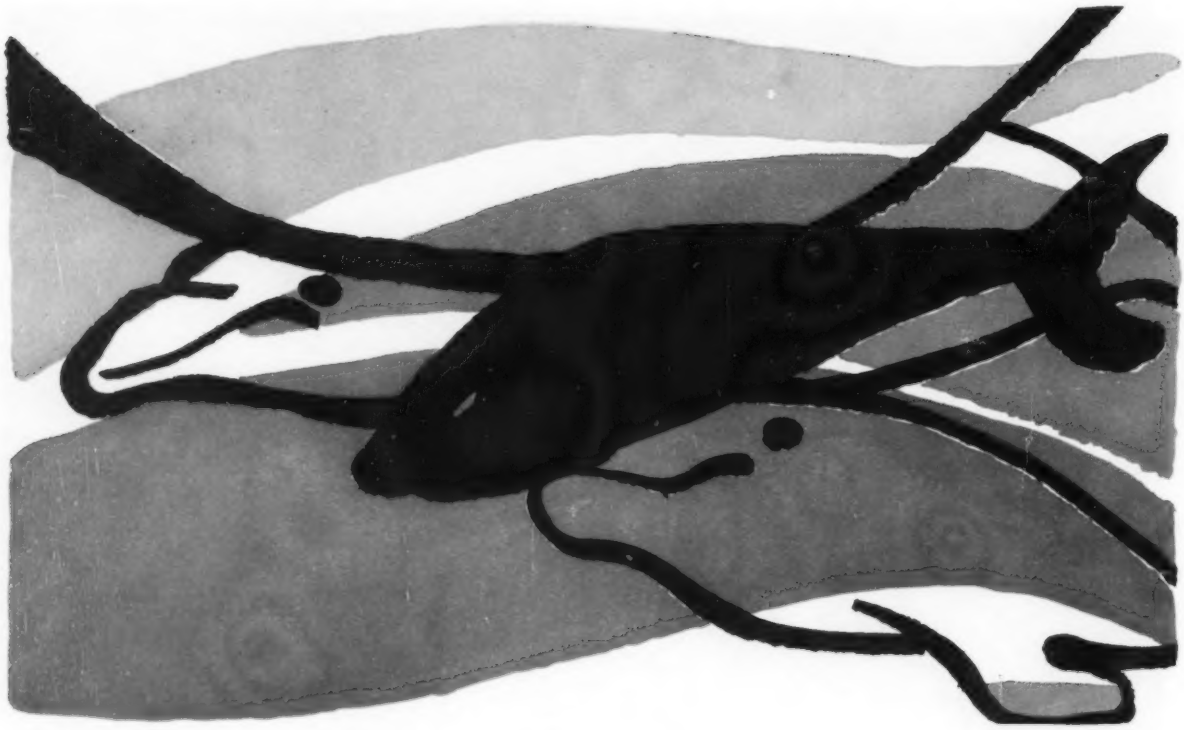

For Brighter, Better Prints– Drimarene-Z Reactive Printing dyes, for cotton and viscose, give economical, brilliant fashion prints with outstanding washfastness. If you're looking for ease of application, easy rinsing, freedom from staining of the ground shade in washing, excellent print paste stability, and stability to steaming, see Sandoz about the Drimarene-Z line. You won't know how much better the work could be, if you haven't tried Drimarenes. Write, call, or phone the nearest District Sales Office of **SANDOZ, INC., 61 Van Dam Street, New York 13, N. Y. ALgonquin 5-1700.**

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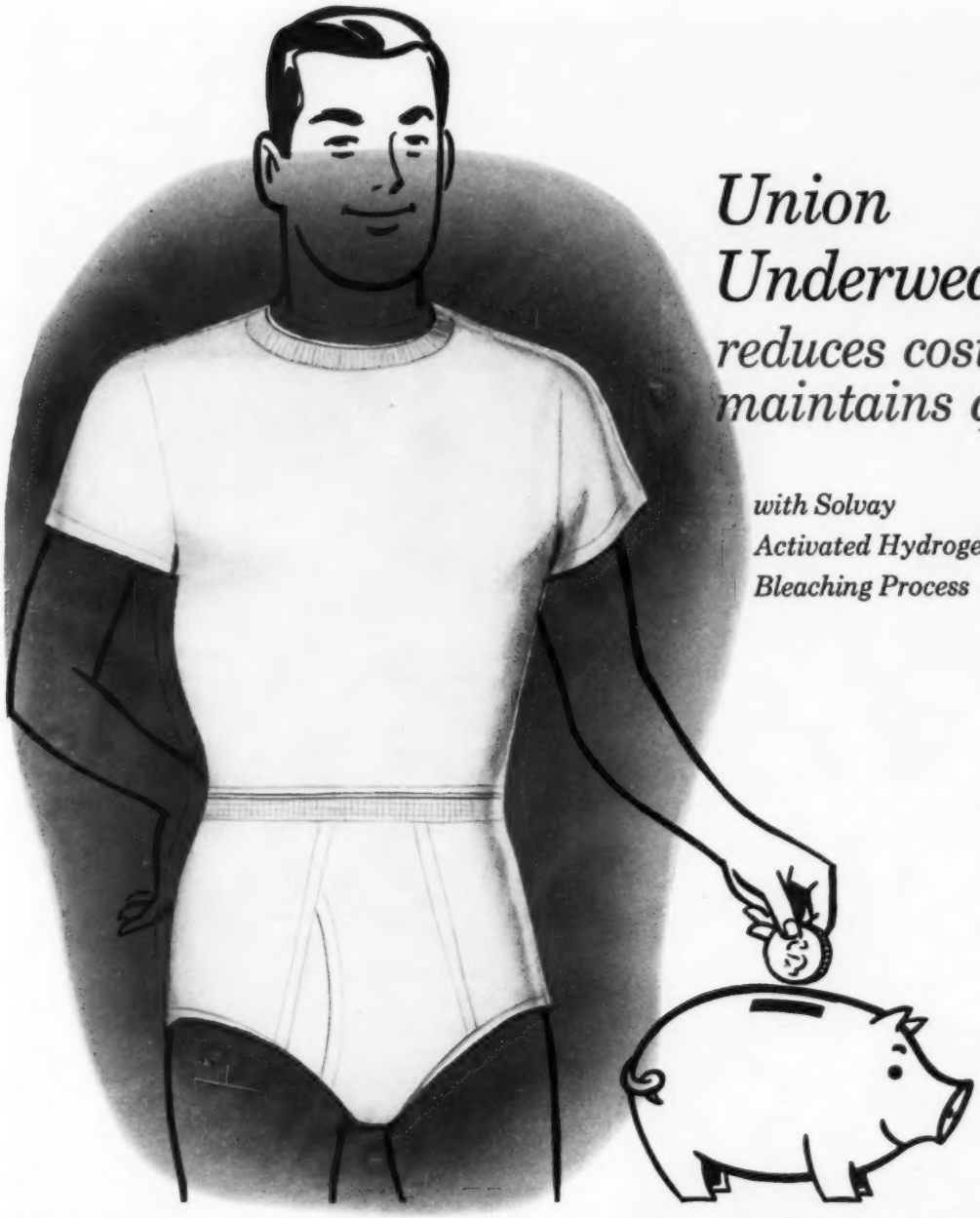

Union Underwear reduces costs... maintains quality

with Solvay Activated Hydrogen Peroxide Bleaching Process

Over the past nine years Union Underwear Co., Inc.—licensed manufacturers of "Fruit-of-the-Loom" brand underwear—has maintained their quality standard without increasing prices. An important factor in this improved manufacturing efficiency was their adoption of the *Solvay Activated Hydrogen Peroxide Bleaching Process.*

The Solvay Activated Hydrogen Peroxide Bleaching Process is a new method for bleaching cotton developed by Allied Chemical Corporation and available under a royalty-free license. This new process can give you whites equal to your present process with an important decrease in costs . . . consumption of hydrogen peroxide and additives can be reduced 25 to 50% depending on purity of cotton before bleaching. Or, you can achieve whiter whites at no increase in cost.

Solvay can provide technical service to help you evaluate this new process for your plant. A booklet is available from Solvay which describes application, advantages, cost analysis and comparative quality . . . full details on the techniques and results you can expect. Write today for your free copy of "Solvay Activated Hydrogen Peroxide Bleaching Process for Cotton."

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FINISHING MAGIC

(audio) **Butterworth makes you a prestidigitator**

(audio) **with cottons**

(audio) **and synthetic fabrics**

(audio) **through the magic of finishing**

(audio) **at high speeds**

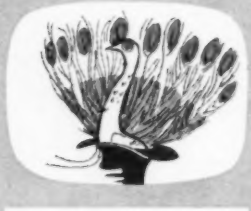
(audio) **and low cost**

(audio) **With Butterworth Finishing Machines**

(audio) **you get high lustres**

(audio) **. . . embossed effects**

(audio) **. . . add the excitement of**

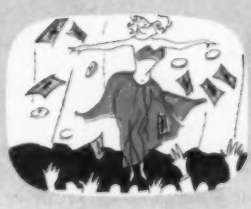


(audio) **colors in limitless shades**

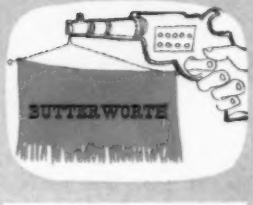
(audio) **. . . crease resistance**

(audio) **. . . water repellency**

(audio) **To give *your* fabrics**



(audio) **magic sales-appeal**



(audio) **talk to Butterworth!**

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In the South: Industrial Heat Engineering Co., Greenville, S. C.
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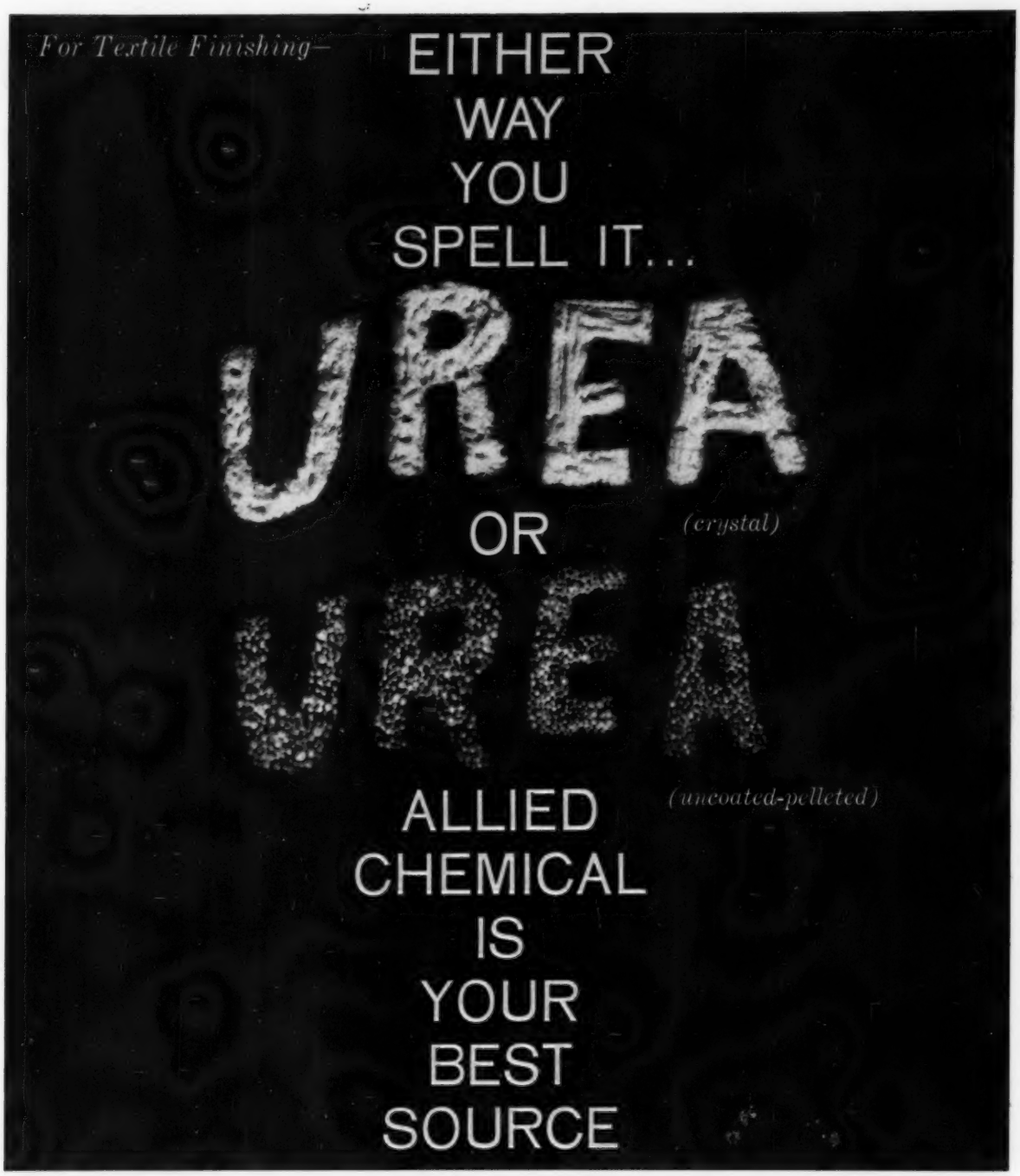

Whatever form of urea you need, you can count on Allied Chemical for fast service on a product of highest purity and uniformity.

Extremely valuable for textile applications, it's used: in acid and direct dyes for screen and roller printing; with starch and other materials for weighting, sizing and finishing; in flame-proofing compositions; and in resins to improve crush and crease resistance.

Allied Chemical Urea in uncoated, pelleted form is preferred by many textile users because of its free-flowing characteristics, and its ease of handling and storage. Both forms are supplied in the quantities to suit your special requirements.

Want full technical and price data? Write Allied Chemical . . . the country's first multi-plant producer of quality urea for industry.

For specifications and local offices, see our insert in Chemical Materials Catalog, page 272A and in Chemical Week Buyers Guide, page 27.

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for better textile processing

Textile mills get better processing, better end-results from FMC Caustic because it's low in metallic impurities that dull dyestuffs, discolor goods and cause soap-spotting.

In our modern plant at South Charleston, W. Va., we make every effort to eliminate contaminants and assure consistent clarity. Our caustic is produced in modern, automatically-controlled cell rooms and bleached. Then it's handled in nickel pipes, stored in lined tanks and "polish filtered" just before shipment for maximum clarity.

We're strategically located to give prompt delivery by tankcar, truck or barge . . . uniquely equipped to offer valuable technical assistance "in the mill" and at our newly organized Application Research Center at Princeton, New Jersey.

Our nearest office will be pleased to quote on your needs or provide technical assistance.

CAUSTIC SODA — 50% and 73% Liquid, Regular and Rayon Grades; Flake, Solid and Ground

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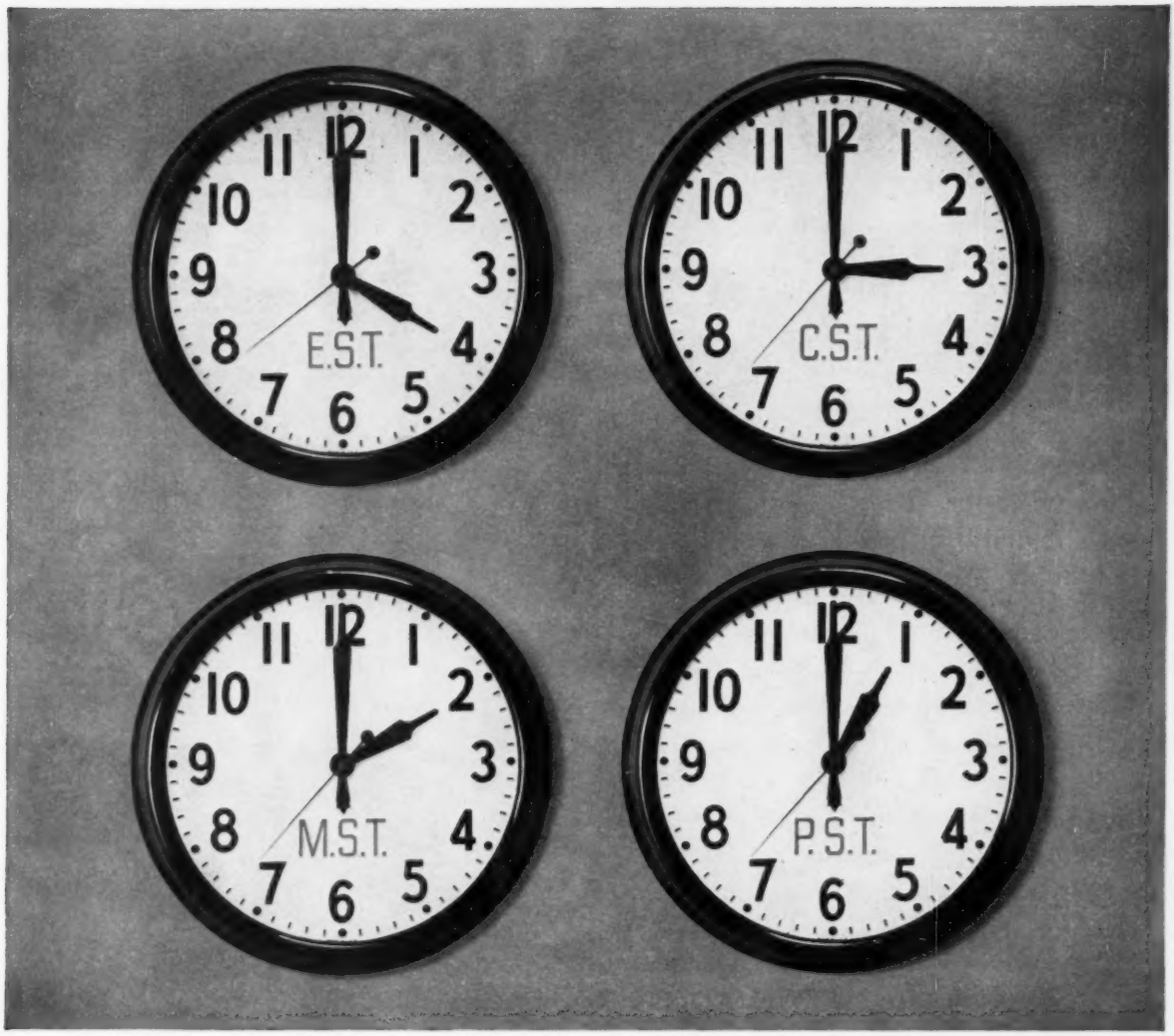

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MORTON PUREX is a quality controlled evaporated grade of salt that is 100% soluble. Purex dissolves rapidly and uniformly, producing a clear, fully saturated brine at highest possible flow rates.

MORTON '999' is a high-purity evaporated salt. It is particularly suitable for use in de-alkylizing units.

MORTON ROCK SALT is economical to use and comes from many sources in a wide range of particle sizes. Morton can supply the grade best suited to your needs.

Mail coupon today for more information about the various grades of salt and the valuable service Morton offers the Water Conditioning Industry.

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SCHOLLER MEN, like SCHOLLER PRODUCTS, are "a friend of the family" in hundreds of textile finishing plants, everywhere. Dependable. Trustworthy. Time-Tested.

So, welcome the SCHOLLER MAN when he calls. Consider him "a friend of the family" in your plant, too. Discuss "finishes" and "finishing" with him. Talk about your in-plant technical problems. He can usually come up with the right answer—or get it for you! His quality products and sincere service both are as near and available to you as your telephone!

DURA BEAU RESIN FINISHES: For hosiery and other fine fabrics that require superior qualities of "hand" plus added properties of fabric strength, stability and surface smoothness.

LANOLIZED FINISHES: Produce fabrics with unusually desirable cosmetic properties and superior comfort against the skin.

CREAMOYL FINISHES: Economically add a high degree of softness and smoothness in practically all fibers and fabrics.

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HYSORB FINISHES: Produce a "thirst" for moisture in the normally moisture-resistant fabrics of man-made fibers!

DURASEPTIC: A finish additive that inhibits growth of bacteria on fabrics . . . minimizes perspiration odors, retards mildew!

BROSCO-TEX: A new finish designed to enhance tufted fabrics of all kinds . . . assures better maintenance of pile, superior resiliency and more desirable hand.

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Manufacturers of Textile Finishes, Resins, Softeners, Detergents, Soaps, Oils and Specialties

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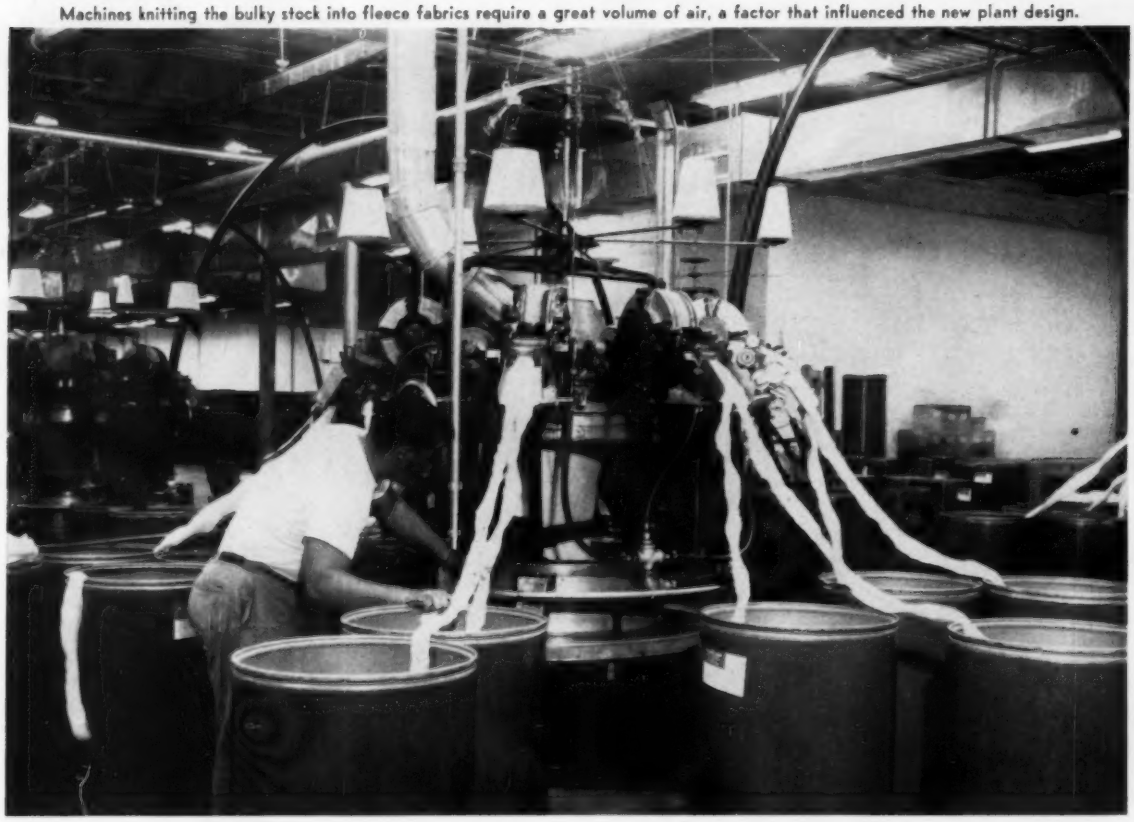
KNITTING SECTION

Machines knitting the bulky stock into fleece fabrics require a great volume of air, a factor that influenced the new plant design.



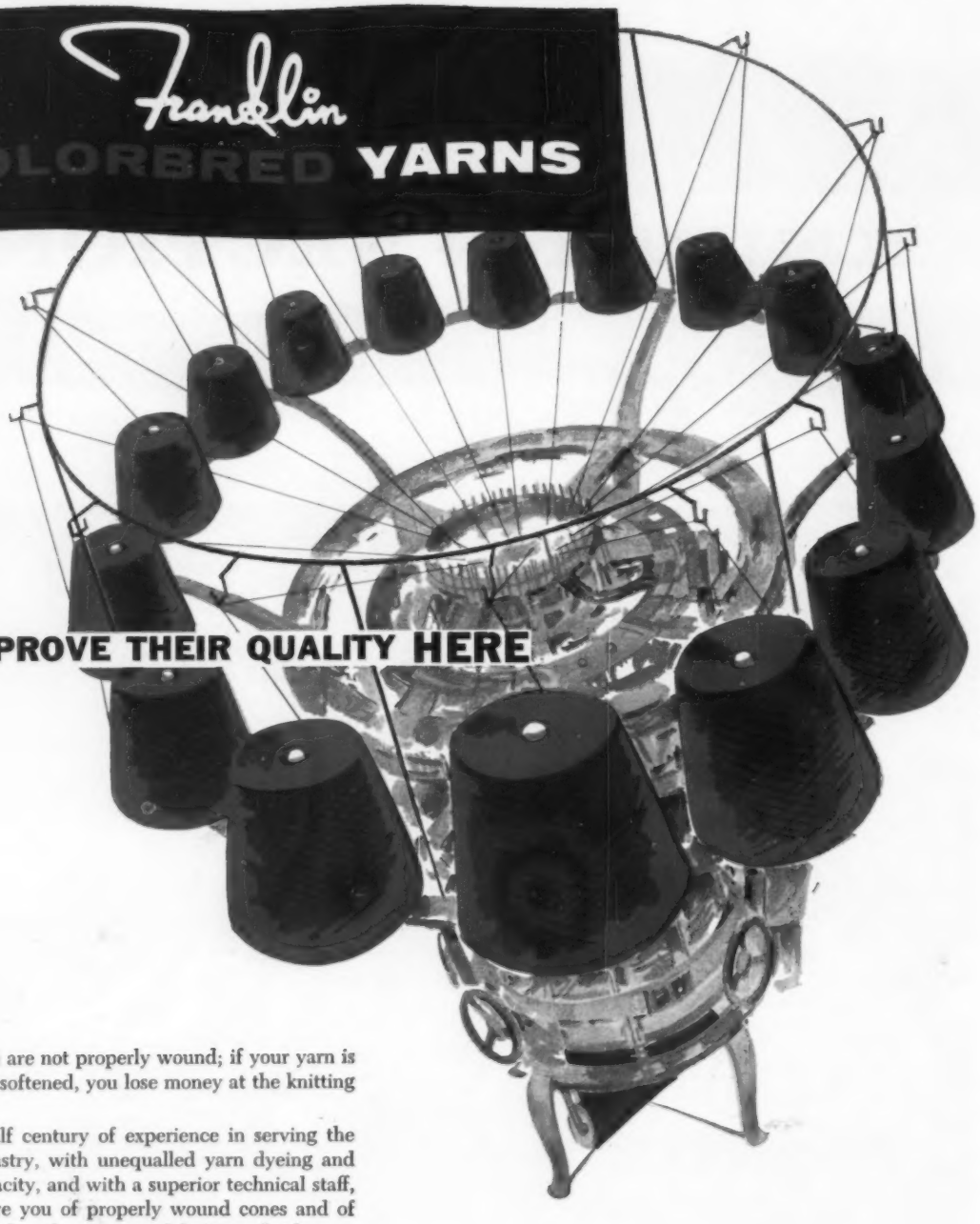
Staff prepared Exclusive

Better pile fabrics at lower cost

is the production aim at Glenoit Mills' Tarboro plant

AN ADEQUATE supply of good labor with excellent attitude, a cooperative community spirit, a location near raw material sources, a favorable tax climate, and proximity to fashion centers were among the important factors that brought the new Glenoit Mills, Inc., knitted pile fabric

Franklin COLORBRED YARNS



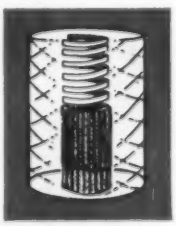
THEY PROVE THEIR QUALITY HERE

If your cones are not properly wound; if your yarn is not properly softened, you lose money at the knitting machine.

With a half century of experience in serving the knitting industry, with unequalled yarn dyeing and winding capacity, and with a superior technical staff, we can assure you of properly wound cones and of yarns softened with our special knitting finish.

And don't overlook the quality of Franklin Dyeing. Wound on Franklin Springs exclusively, our dye packages are compressible. Soft packages compress more and hard packages compress less into a column of uniform density. Uniform penetration of dye liquor and uniform shades consistently follow.

Our representative is at your service. Contact our nearest plant or office and ask him to call.



X-ray view of Franklin Package — the "secret" of uniform shades. Don't say "package dyed". Say . . . "FRANKLIN COLORBRED"

Franklin Process COMPANY

Largest Package Dyers in the World of Natural and Synthetic Fibre Spun Yarns

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plant to Tarboro, N. C. The firm employs about 150 people.

The need to have the production within overnight distance of fashion centers in New York City prompted the move from Wisconsin to North Carolina. Also, the mill is now located near good sources of raw stock and commission dyeing.

The Janesville, Wis., plant was rented, and the manufacturing operations were on five floors of the old building, making the operation inefficient, uneconomical.

The new, single-story building contains about 110,000 square feet of floor space, is completely air conditioned (refrigerated) except in the finishing area. The modern, windowless structure was designed and built solely for the operations performed there. Situated on a 15-acre tract, the plant is within two miles of Tarboro on Route 64. Warehousing and parking accommodations are included among the facilities, and 25 additional acres are under option for further expansion.

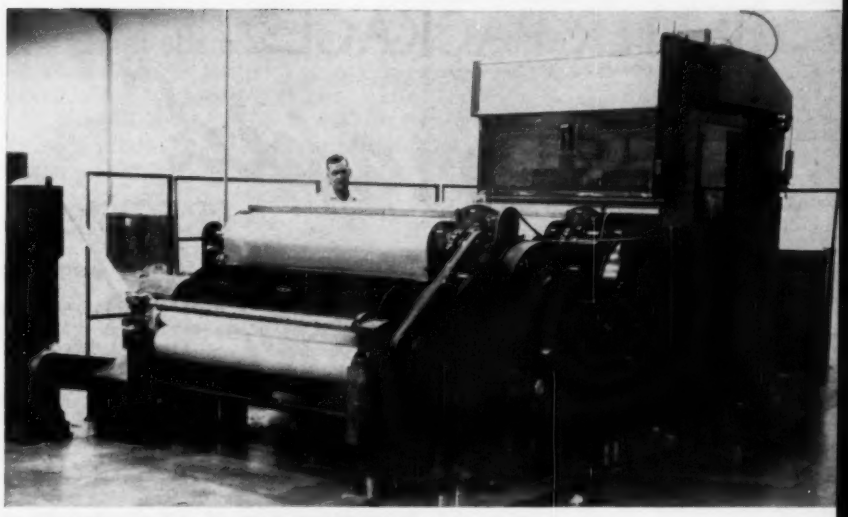
Acrylic and modacrylic fibers comprise a majority of the raw materials used, although natural fibers are also used, and manufacturing operations start with commission-dyed staple. The mill cards a sliver from the staple and knits it into a pile fabric on a sliver knitting machine.

Operations performed here include opening, blending, picking, carding, knitting, and finishing. The finishing department heat-sets or coats the backs of fabrics after knitting. Then the fabrics are sheared and polished to raise fiber for depth and sheen.

Production machinery includes blending and carding. A single line of opening and blending handles as much as 3000 pounds per hour, and six sets of cards include 48″ and 60″ models. Interior walls received a special finish to discourage lint collection.

Initially, 36 knitting machines were put into production, and more are to be installed. There are two heating ovens, with pin tenters, and hot air drying is supplied by natural-gas heaters.

Among the polishers used are a couple custom-built by the firm for special processes. Polishers are called "electrifiers."



TOP: one of the six cards used to make the sliver needed at the knitters. BELOW: a hot-air, gas-fired oven equipped with pin tenter being set for production run.

Glenoit Mills were among the original producers of knitted pile fabrics, and they were first in the market with the fur-type rug, according to mill officials. Their production includes pile fabrics for outerwear, linings, and industrial uses.

Distribution goes to ladies' apparel for coats (simulated fur fabrics) and in men's outerwear and pile liners. A substantial part of the business is in floor coverings, accent rugs, and bath mats. Paint roller fabrics, buffing pads, and

Executive Vice-President Irving Shapiro at one of the earlier knitting machines in use at the new Tarboro, N. C., plant.

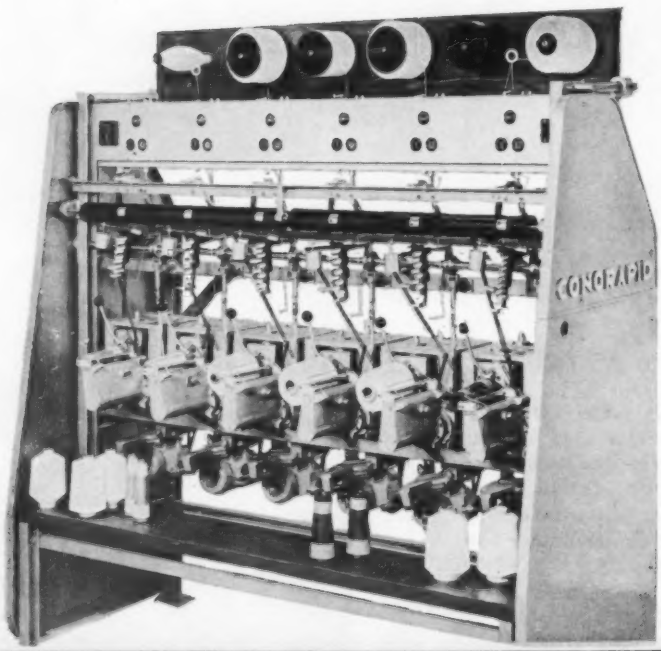
BETTER PACKAGES made faster and more economically with the

"Conorapid" PRECISION CROSS WINDER

The superior design of the "CONORAPID" Precision Cross-Winder eliminates vibration and greatly reduces noise. Average number of packages produced is increased by 1½ to 3 times because of its greater operating speeds which range from 2,000 to 4,000 rpm. Yarn guide is of basically new design—owing to fast oscillation. Despite greatly increased revolutions the yarn guide traverse ensures crossing ratios well within normal requirements.

Tension tests (conducted with electric measuring device) indicate uniformly low fluctuation. Average tension during build-up of complete package can be maintained at a constant low, or can be slightly decreased. This assures a firm build-up and uniform hardness from inside to outside, including the surface of the package. Unwinding is similarly assisted and improved.

- *2-4000 rpm operation speed.*
- *1½ to 3 times greater production.*



Additional Features:

- Heavier packages can be built up because of heavy duty bearings and rotating parts.
- A few simple adjustments permit the production of various packages including: cones, pineapple cones, bi-cones, cylinder cheeses, etc.
- Winding field is readily adaptable to character of material being used.
- Greatly minimized temperature and atmospheric fluctuations virtually guarantee better quality fine denier packages of 1—1¾—in less time (1-5 hours). The same holds true for packages of heavier denier and greater weight—including textured yarns such as Banlon, Helanca, etc.
- Empty packages and thread breaks are electrically signalled to operator.
- Higher speeds and increased production make for substantial economies in space and labor.

Write today for complete data on the "CONORAPID" Precision Cross-Winder—available only from Reiner.

Write today for complete information

ROBERT REINER, INCORPORATED

550-564 GREGORY AVENUE

Telephone: UNion 7-0502 — From New York City call LOngacre 4-6882

WEEHAWKEN (Only 10 minutes from Times Square by direct bus) **NEW JERSEY**

AN HONORED NAME IN TEXTILE MACHINES SINCE 1903

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other industrial fabrics also take part of the production.

This firm has an interesting history. Glenoit Mills, Inc., was founded by Clarence E. Hafford. The firm name is coined from the two cities of Glen Rock, N. J., and Beloit, Wis. These towns played a role in the lives of the mill principals.

In 1956, Great Lakes Mills, (where the manufacturing was done) and Glenoit (sales) were merged and sold to Botany Industries, Inc., headed by A. M. Sonnabend. Sound merchandising methods made the mill very successful. "Sound merchandising" in this instance is defined as "working" closely with customers and problems, good advertising, budget control, and development of new style trends." Production ingenuity is given credit for the mills' successful entry into the field of pile-knit fabrics.

Officers include: Clarence E. Hafford, president; Irving Shapiro, executive vice-president; S. M. Kendiger, vice-president in charge of production; and A. Z. Halpern, vice-president in charge of sales and merchandising.

Continued expansion of ladies' seamless hose industry seen

■ IN ONLY three years the number of ladies' seamless hosiery knitting machines in the United States increased 16,473 (from 22,274 in 1957 to 38,747 in 1960), Morris Speizman Co., Inc., reported in the recently published "Survey and Analysis of Circular Hosiery Machinery in the United States, 1960."

Likewise, annual production of ladies seamless nylon hose climbed from 14,604,000 dozen pairs in 1956 to 34,000,000 pairs (estimated) in 1960. "Barring a sudden change in 'milady's' preference for seamless hose, there simply will not be enough production to fill the demand until we reach a plateau of about 50,000,000 to 54,000,000 dozen pairs annually," observed Morris Speizman, head of the firm which conducted the survey. "This should require at least three years of increased capacity, based on an additional 6,000,000 dozen pairs per year," he said.

An analysis of the ownership of the 38,747 ladies' hose machines in place indicated that 16,612 or 42.87 per cent of all machines were in eight companies with 1000 machines or more. 6,059 or 15.63 per cent of the machines were in the hands of nine companies with 500 to 999 machines. 10,409 machines or 26.87 per cent belonged to 40 companies operating from 160 to 499 units. The remaining 5,667 machines or 14.63 per cent were owned by 80 firms with up to 159 machines.

"Responsible" ladies' hosiery manufacturers were urged to avoid being stampeded into irresponsible price cutting just because "the buyer actually showed me an order from 'so-and-so' at 10 per cent less than we are pricing our hose." If every small plant were to dump its production at one time, this would still affect only 14.63 per cent of the total production of ladies' seamless hose, the report emphasized.

Fewer Men's and Children's Hose Machines. The number of men's and children's hose knitting machines was considerably lower in 1960 than in 1957, as shown in the first of the accompanying tables which were reproduced from the survey. Still, an unbalanced condition exists in both segments of the industry.

If all the men's hose knitting machines in the industry were run 40 hours per week, production would just about take care of the total demand for men's hose.

Operation of present children's hose machines for only 1 2/3 shifts would provide easily the quantity of goods required.

Location of Machines. 86.5 per cent of the circular hosiery machines were located in the South in 1960, as shown in the second of the accompanying tables. Note that North Carolina has 63.2 per cent of the total, whereas in 1957 this state had only 53.0 per cent of the machines.

Number of Plants. There were 472 circular hose knitting mills in 1960, classified as follows: men's hose, 211; ladies' hose, 134; children's hose, 127. The total was 27 more than the number reported in 1957.

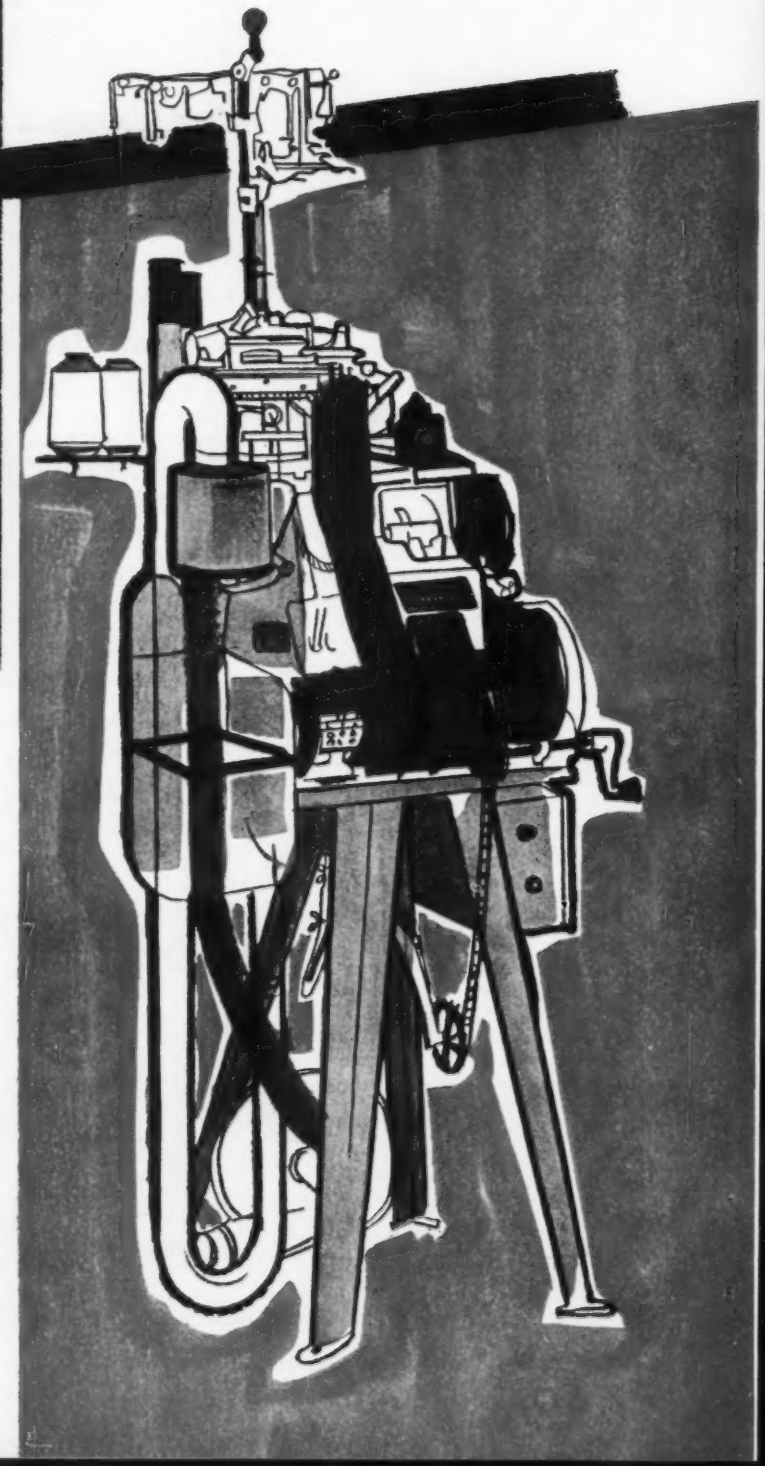
Number and General Types of Circular Hosiery Machines in U.S.A.

	1960	1957	Difference
GRAND TOTAL	91,661	88,364	+ 3,297
Men's Hose Knitting Machines	36,751	41,628	— 4,877
Ladies' Hose Knitting Machines	38,747	22,274	+16,473
Children's Hose Knitting Machines	16,163	24,462	— 8,299

Where the Machines Are Located

	1960	%	1957	%	Change
NORTH					
Vermont, New Hamp., Mass., & Conn.	1,448	1.5	1,689	1.9	—
Pennsylvania	6,371	6.9	5,107	5.8	+
New York, New Jersey, Maryland, & Del.	1,436	1.6	1,284	1.5	+
Total machinery in "Northern Mills"	9,225	10.0	8,080	9.2	+
SOUTH					
North Carolina	58,055	63.2	46,838	53.0	+
Tennessee	9,806	11.7	12,169	13.8	—
Georgia	4,144	4.5	7,112	8.0	—
Alabama	1,008	1.1	2,605	2.9	—
Virginia	2,186	2.4	2,323	2.6	—
Mississippi	1,898	2.1	1,256	1.5	+
S. C., Fla., W. Va., Ark., Texas & Puerto Rico	2,283	2.5	3,441	3.9	—
Total Machinery in "Southern Mills"	79,380	86.5	75,744	85.7	+
MID-WEST & FAR WEST					
Ill., Wis., Mich., Ky., Mo., Ohio, Calif., Colo.	3,196	3.5	4,540	5.1	—

now peak production of the finest seamless nylon stockings



announcing the new "Reading-Booton" twin-feed machine

- **2-feed automatic, highly efficient end trimmer. Trims all ends to a length of from ¼ to ⅜ inch.**
- **New high standard of fabric quality**
- **Continuous, high-speed production**

The new "Reading-Booton" Twin-Feed Machine opens new profit possibilities in the knitting of ladies' seamless stockings. It gives you twin-feed production, plus amazing simplicity of operation, and trouble-free performance.

New features developed by Textile Machine Works for the proven Booton Machine. This new precision machine belongs in your production planning. Backed by our world-wide service organization. You'll want to see the new "Reading-Booton" in operation before you buy any seamless machine. Call us today.

TEXTILE MACHINE WORKS

READING, PENNA.

Stop yarn fouling

with this mill-made device that keeps the slack out of yarns

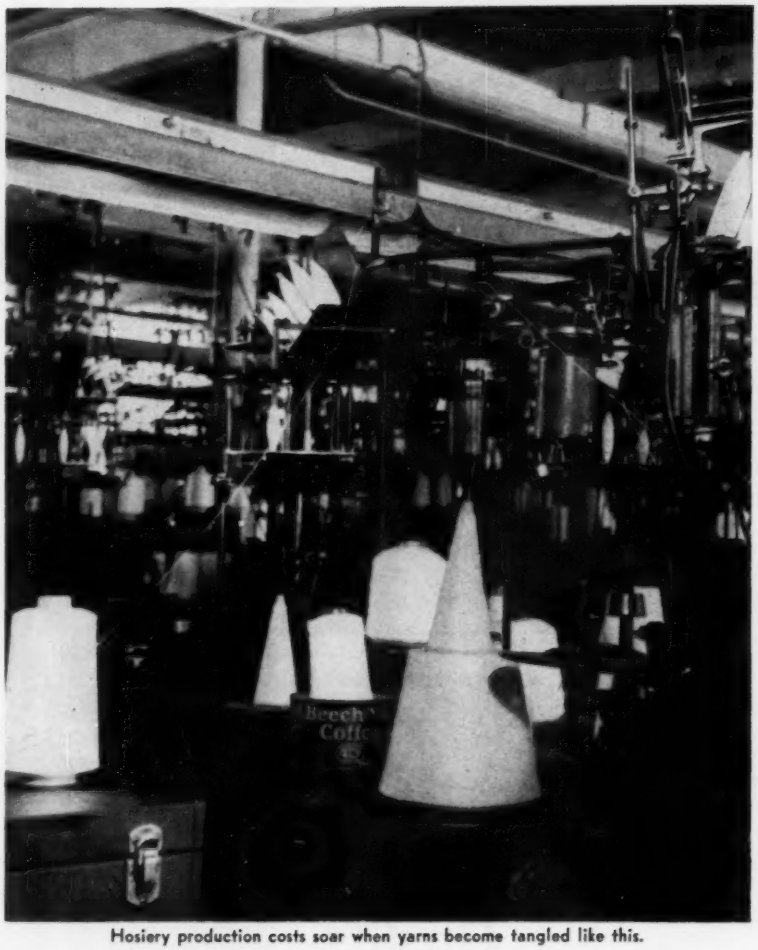
by Winston Shewmake
Exclusive

THE FOULING of light, small denier yarns (such as nylon reinforcing yarns) with other yarns and other parts of machinery where these yarns are used can be a problem. But it can be completely eliminated by the use of an inexpensive, easily manufactured, and direct operating take-up, tensioning, and binding mechanism which is mounted directly over and near the yarn package.

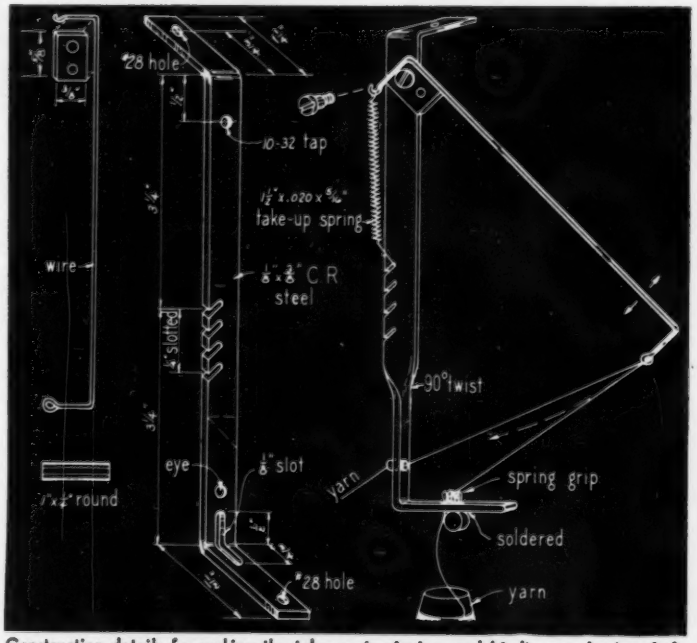
Fouled yarn would not occur if the different yarns were separated sufficiently all the way through the guides to the point of knitting. However, with so many yarns being used, and space being at a premium, yarns are usually placed closer to each other than is sometimes practical.

The condition is aggravated if there are windows open, air conditioners on, or induced air currents from machinery running at high speeds. These air currents naturally blow the yarns into one another, and fouling occurs. The result is almost always a total waste of time, money, and materials.

The solution lies in controlling the yarn in some positive way,



Hosiery production costs soar when yarns become tangled like this.



Construction details for making the take-up, tensioning, and binding mechanism. Left to right: Fig. 1, Fig. 2, and Fig. 3.

Short-Cut to Hosiery Profits through AUTOMATION

Wherever fine hosiery is finished, Turbo is a magic word.

It started with "gentle as a lamb" Turbo Preboarders, and Finish Boarders — mill-proved for fast, efficient, high quality finishing. Dyeing: a separate operation entailing numerous handlings of fragile stockings.

The new Turbo Dye Boarder combines four operations — preboarding, dyeing, postboarding, and drying — in one processing cycle. Production capacity is 160 to 170 dozen pairs per 8-hour shift with two operators.

The Dye Boarder is an example of Turbo's contribution to automation. It is being used successfully in cost and quality conscious mills in over a dozen countries around the world.

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TURBO MACHINE COMPANY, LANSDALE, PA.

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For further information use Handy Return Card, Page 175

without the introduction of excessive drag (as would be the result if the yarns were run through tubing), all the way from the yarn package on the machine to the point of processing.

The take-up and binding mechanism described herein will maintain a constant control and tension upon such yarns as well as control for yarns which are momentarily idled or for yarns during a reverse movement of the machine. These devices can be made in the plant shop easily and inexpensively by following these simple directions.

Secure a piece of cold-rolled steel ⅛" x ⅜" and cut it 9" long. Drill all holes *(see Figs. 1, 2, & 3)* as indicated and drill one suitable for receiving a porcelain eye. Tap the holes indicated. After the holes (all four) are drilled, cut slots ¼" apart, as indicated, to receive the take-up wire spring. These slots provide adjustment for tensioning purposes. Cut out the ⅛" slot as indicated.

Bend in opposite directions two 90-degree angles as shown. If slot were not milled, now is the time to introduce the lower angle to a ⅛" cut-off wheel, which will provide the slot in this bend.

Make the following: one piece ⅝" x ⅜" x ⅛" cold-rolled steel and drill holes to take the shoulder screw as shown. These holes are set ¼" from each end.

Next, bend a steel wire as shown and solder onto the small block as shown. A porcelain eye may be attached to this wire if desired.

Then cut from a piece of ¼" round stock a piece 1" long. With a file slightly flatten one side to make it lie flat onto the piece as shown in *Fig. 3*. Do not solder this piece yet. Cut the length of binding spring, as shown, and proceed to assemble as follows: place the long length of cold-rolled steel into a vise and twist 90 degrees as shown in *Fig. 3*. Be sure that the screw hole at the top has been tapped and the porcelain eye set in the hole indicated at the bottom.

Next, place the 1" piece of round stock onto the slotted end and solder in place as shown in *Fig. 3*. Hook the binding spring onto the protruding ends of the round stock and over the slotted end to form a crescent. This completes the assembly of the bracket body.

To assemble the take-up wire, solder the wire onto the small block and allow the shank of the wire to be long enough barely to clear the porcelain eye in the bracket as indicated. Attach this assembly to the body bracket with the shoulder screw, hook a very light take-up spring into the hook, and the entire device is completed.

Mount the device directly over the package and near the top of the package. This will assure positive control of the yarn from the instant it leaves the cone until it reaches the point of knitting.

To prevent the metal parts from rusting, apply a rust inhibitor, bluing, or paint before putting the device on the knitting machine.

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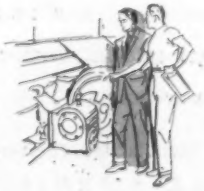
So many things can happen to interfere with smooth weaving operations! A machine can go out of adjustment, stuck ends can break the yarn, uneven tensile strength can cause warp stops, hard size problems can plague you. And while the results of the trouble may be obvious, the cause and cure are sometimes harder to discover.

That's where Penick & Ford comes in! We maintain one of the largest staffs of trained textile experts in the business. If you have used our Crown Thin Boiling Starch, Douglas Starch or Dextrine, Clearsol or Penford Gun, you know that P & F means quality. It also stands for service.

The Technical Service Representative who responds to your call is a skilled sleuth when it comes to detecting textile troubles. After studying operations in hundreds of mills around the country, he knows the trouble spots and shortcuts, and he has more answers than you can shake a spindle at. In his kit are all the tools needed for scientific detection – thermometer, viscosimeter, pyrometer, refractometer, etc. And he is well armed with 500 Penick & Ford starches and derivatives.

Even if you have no specific problem, our technician may be able to make a cost-saving or quality-improving suggestion to advance your weaving efficiency. So why not take advantage of his experience? A letter or telephone call to our Atlanta Office will bring him promptly. The address is 1531 Marietta Blvd., Atlanta, Ga. Tel.: SYcamore 4-9521.

The P & F Technical Service Representative tests yarns and textiles for abrasion resistance, etc . . .



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HOW OTHERS MANAGE

Temporary remedy for hooked metallic clothing

THE EDITORS:

We find that metallic clothing damaged (hooked) slightly by the air plate (knife plate) being jammed against it can be kept running by applying shellac to the damaged area. Unless the damage is severe, the shellac prevents loading and permits us to keep the card going until we can get the overhaulers scheduled to repair the clothing.

CONTRIBUTOR No. 1281

Suggests vacuum extraction for delicate fabrics

THE EDITORS:

In reference to CONTRIBUTOR No. 1256 of the "Who Can Make It?" item in the October issue, p. 205, I think I can offer some enlightenment. A successful means of extracting excessive finishing chemicals or moisture from fabrics considered too delicate for pressure roll extraction, is vacuum extraction.

In this method, after the fabric comes out from the kettle or any other finish application pot, either in rope form or in open width, it passes fully open over a four- to five-inch pipe containing a ½" slit along its length. A vacuum pump pulls air through this slit and brings the moisture out of the material in so doing.

A fabric containing 180 per cent moisture before vacuuming, comes out with as little as 45 per cent moisture after vacuuming. This is low enough for the fabric now to be finished in common drying machines.

CONTRIBUTOR No. 1273

Knitters use mill-made knives instead of scissors

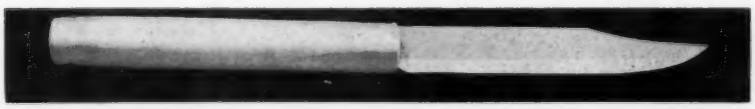
THE EDITORS:

We use "homemade" knives instead of scissors in our knitting room. The blades are made from discarded knives from the machines in our cutting room: the handles are pieces of piping. They cut very fast when honed properly. Our fixers pass them out when we need them.

In making the knives, the fixer shapes a tang onto an end of the blade, fits it into one end of the pipe he uses for a handle, tamps a bit of waste in the end alongside the blade to act as stoppers, and pours in a little hot lead. When cooled, the lead never lets go.

Some fixers even split a piece of dowel rod, insert the blade, and wrap the handle with wire to hold the blade intact.

CONTRIBUTOR No. 1280



Prevents yarn mixing at spoolers and warpers

Color coding cheese starters is simple and fast with the Model S-63 manual box sealer and one of a great number of Scotch brand

NEED MONEY?

Send TI a Kink

Rules on page 135

Model 102 installation at Kimberly Yarn Mills

The First New Yarn Mill in a Decade Selects

FOSTER MODEL 102 WINDERS

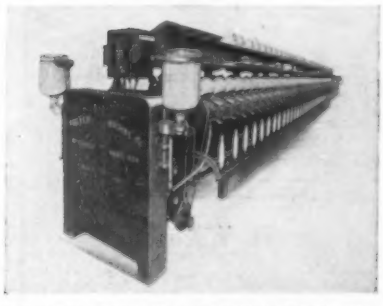
Kimberly Yarn Mills of Belmont, N. C. opened its doors for business early in 1960. It did so because it believes there is still room in the market for another *quality* spinner.

There is little point, of course, in spinning a quality product unless the product is properly wound and properly packaged. That is why Kimberly selected Foster Model 102 Cone and Tube Winders.

They know that the Foster Model 102, with its self threading tension and slub catching attachments, assures clean, automatically inspected yarn; that its waxing and yarn conditioning attachments provide any degree of softening and lubrication desired; that its ribbon breaker prevents ribbon wind; and that repair costs run as low as $10.00 per year per 100 spindles.

They also know that the Foster Model 102 Cone, with its convex base and its 13° "greater taper", when full, assures free delivery at the knitting machine, preventing "nip-i-tis".

Time marches on and so does the Foster Model 102. Send for descriptive circular. No obligations.



Foster Model 102 with yarn conditioning attachment.

FOSTER MACHINE COMPANY

466-0

A YARN WINDER FOR EVERY PURPOSE

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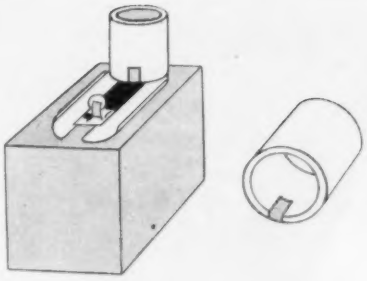
cellophane tapes. The tape may be paper backed.

A trough or guide made of sheet metal is mounted on the box sealer, keeping the cheese aligned as it moves across the tape-applying roller. To apply the tape inside the starter requires rounding the edges of the plastic tape-applying roller to conform it to the curvature of the cheese core. A predetermined length tape (1½") is then applied to the cheese after each completed stroke over the tape-applying roller. The starters are ready for use.



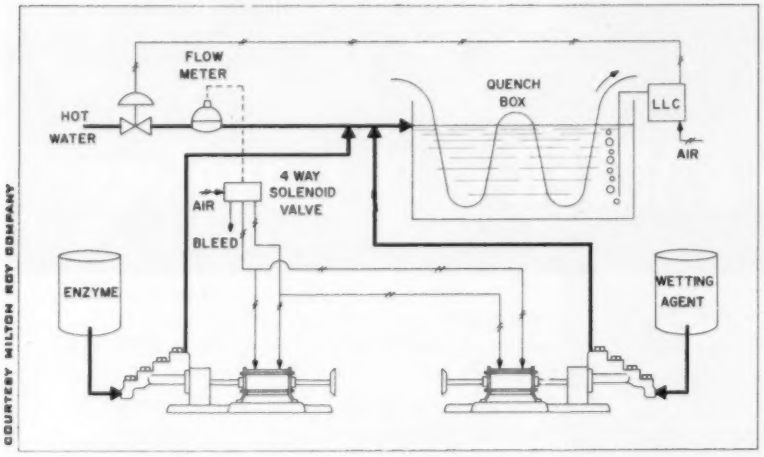
How a mill cut desizing cost, boosted quality

The Springs Cotton Mills' bleachery at Grace's Station, S. C., effected substantial savings with an automatic chemical feed system to desize grey goods. Savings include those in chemicals, capital investment, direct labor costs, and gains from more uniform grey goods processing.

To desize grey goods following singeing, the mill formerly prepared enzymes and wetting agents in batch tanks and fed them by gravity to the quench box through manually regulated valves. To increase production in this method, however, the company would have to install a 200,000-gal tank equipped with agitators or increase the labor complement for more frequent mixing of batches, and would have to continue handling messy enzymes.

Instead, the firm replaced the cumbersome batch tanks with automatic, controlled-volume pumps to meter the concentrations directly from the storage tanks to the line. Prior dilution of the concentrates is totally unnecessary.

A rotary displacement type meter, equipped with an electric contactor, totalizes the hot water to the quenching saturator and paces a four-way solenoid valve controlling the air supply to the air pistons of the pumps. As each pump makes a complete stroke in direct ratio to the flow of water through the meter, the concentration of the make-up solution is always constant. The concentrations can be changed simply by turning a dial to adjust the stroke length of the pumps. Adjustment is stepless from maximum to zero.

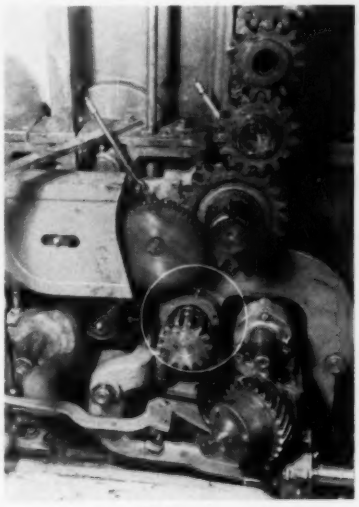


Antifriction bearings lower picker upkeep cost

(This item is an indirect result of our having published a suggestion by Contributor No. 1182 in our November, 1959, issue, p. 153, involving the use of ball bearings on slubber jack shafts. This one discusses ball bearing installations on pickers.—The Editors)

THE EDITORS:

There is a bearing for the drop lever arm of the Kitson or S-L picker, the only difference being in the machining process of the present drop lever arms. In the Kitson the drop lever must be machined to the outside diameter of the bearing, as the bearing will fit

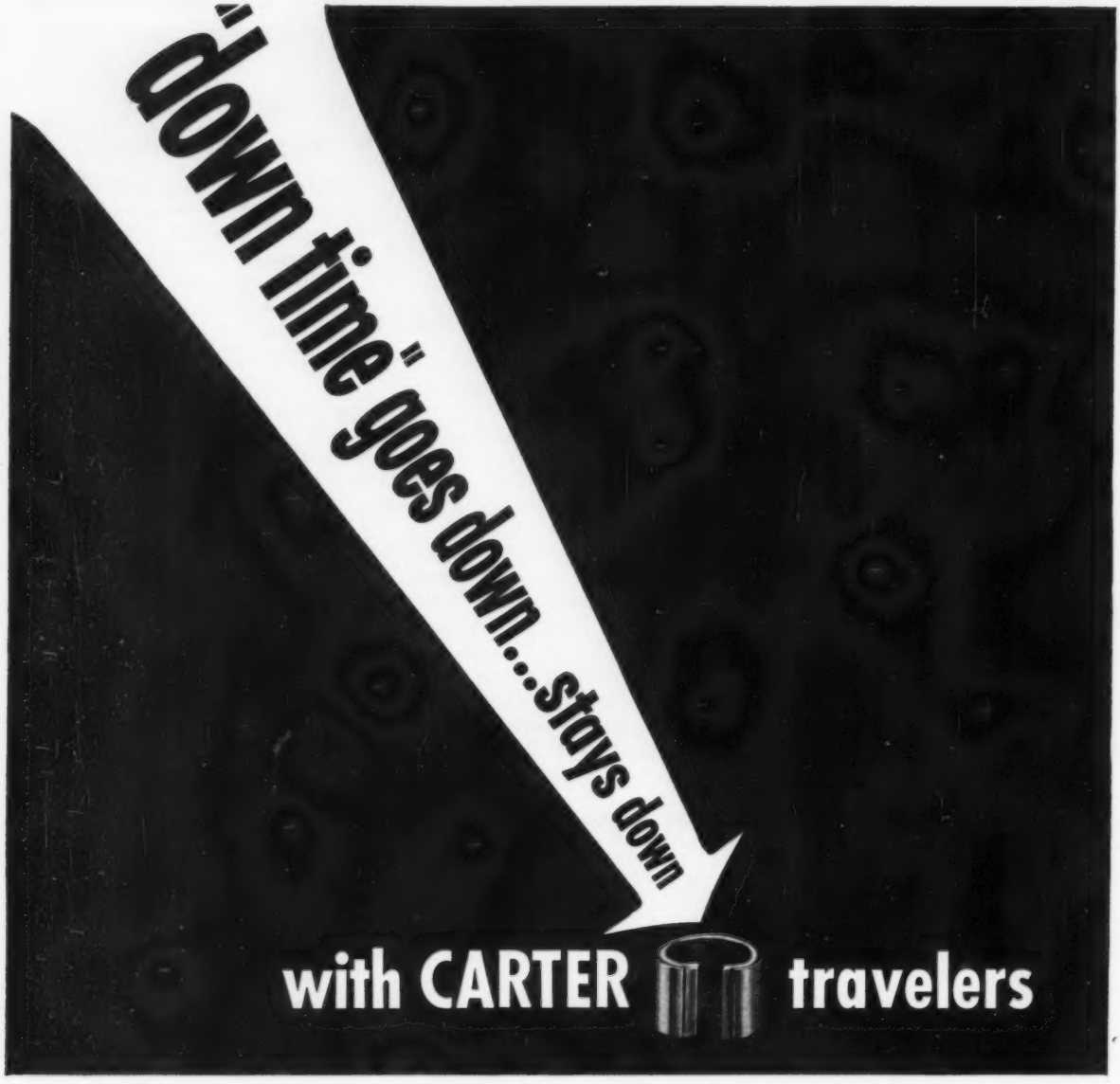


Picture 1

flush with the outside of the arm due to the driving gear fitting so close to the arm. On the S-L models, the bearing can be fitted to the outside of the drop lever, due to the gear being located further from the drop lever arm. See Picture 1.

A second unit is made for the drop lever shaft of the S-L. It is mounted by drilling through the sampson and bolting the bearing onto the inside of the sampson. See Picture 2. A third bearing (not illustrated) is furnished for the S-L picker main drive shaft and is installed by drilling the sampson to

Continued on page 129



When you specify CARTER TRAVELERS, you insure smooth, trouble-free spinning and twisting regardless of yarn count or spindle speeds.

Why? Because precision engineering—skilled craftsmen working with modern machinery—plus scientific laboratory quality control give you a product that cuts worry-time to a minimum . . . increases smooth running time.

Sold and serviced by a team of *specialists*, CARTER TRAVELERS help you make and sell a better product at a better profit.

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Includes:

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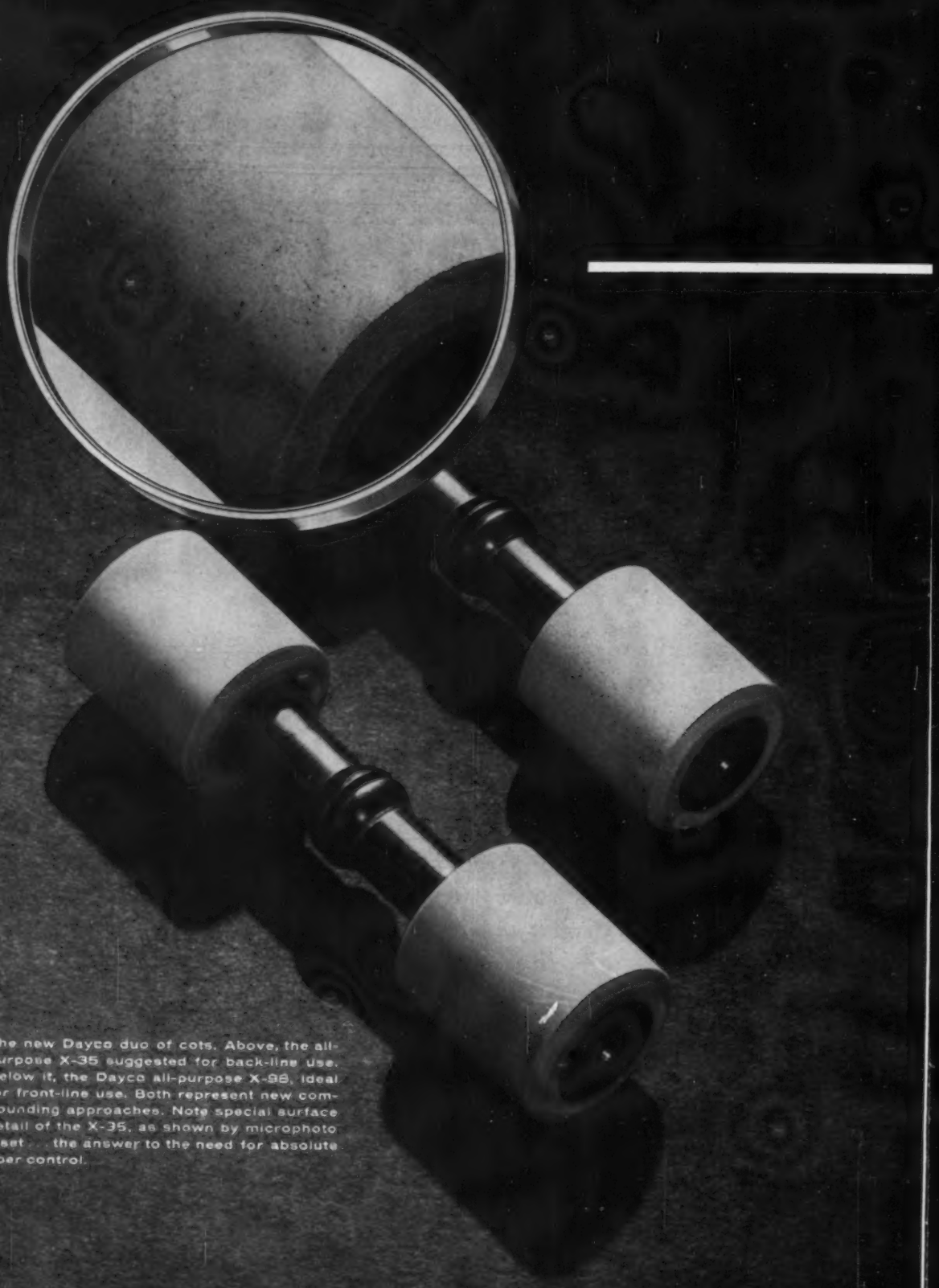


The new Dayco duo of cots. Above, the all-purpose X-35 suggested for back-line use. Below it, the Dayco all-purpose X-98, ideal for front-line use. Both represent new compounding approaches. Note special surface detail of the X-35, as shown by microphoto inset . . . the answer to the need for absolute fiber control.

Dayco Presents Two All New, All Purpose Cots The X35 and X98

New ingredients and special surface give positive yarn control with every fibre— natural, synthetic or blend.

Dayco proudly presents another record-breaking achievement—an outstanding pair of all new, all-purpose cots, the X-35 and the X-98. Compounded with elements never used in cots before, they represent the first major improvement in cot performance offered in many years.

Ideal when used in combination, with the X-35 on the back line and the X-98 on the front, these cots are *all-purpose* in the fullest sense. Both handle any fiber...yarn of any size from 3's to 140's...on any type of system . . . with greater yarn uniformity and greater efficiency of operation. Even on Dacron and other difficult blends, the X-35 and X-98 show outstanding drafting results.

AN ENTIRELY NEW ELEMENT

The new Dayco X-35 is truly a revolution in cot engineering. Because it is compounded with an entirely new element, its heavy duty surface assures positive grip, breaks up surface tensions on all fibers.

The new Dayco X-98, front-line companion to the X-35, introduces a completely new surface formulation to the textile industry. On the finest or coarsest yarns the Dayco X-98 is a superior performer.

The Dayco X-35 and X-98 have undergone over 12 months of thorough testing under the toughest mill conditions on all types of systems and fibers.

MILL TESTS PROVE SUPERIORITY

Results prove that these new Dayco Cots are top performers. Static problems so common with synthetics are reduced to a new low. Coefficients of friction of the X-35 and X-98 prove ideal for any drafting task. Their lack of affinity for all fibers produces cleaner spinning with less fiber left on the clearers.

Whatever your drafting requirements or equipment, test run the all-purpose Dayco duo—the X-35 and X-98. You can expect to set new high standards in your yarn production, regardless of the fiber.

TRY THE ALL-PURPOSE TEAM

Go Dayco all the way—team up the new advanced Dayco X7 *all-purpose* apron with these revolutionary new *all-purpose* Dayco cots and expect superior drafting performance. You'll get it!

Ask your Dayco Representative to set up a trial installation. Phone or write Dayco Textile Products Co., 401 South Carolina Bank Building, Greenville, S. C. Overseas plant: The Dayton Rubber Co. Ltd., Dundee Scotland.

Dayco TEXTILE PRODUCTS CO. Dayco

Divison of Dayco Corporation

BELTING HEADACHES?

Call a Rhoads Belt-Drive Engineer!

The Rhoads engineer will have the answers to belting headaches. He is not limited to one solution because Rhoads produces a full line of beltings.

Your particular problems might suggest Rhoads Texalon, the all-synthetic belting, or Rhoads Tanastic, the leather belting with a nylon core.

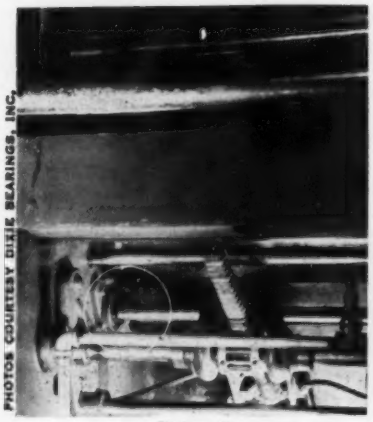
Perhaps the answer is Tannate, the famous all-leather belting which resulted from Rhoads 250 years of experience in leather processing.

Whatever your belting problem, call the Rhoads man for the answer. Or write Engineering Department, J. E. Rhoads & Sons, Wilmington 99, Delaware. Do it now.

RHOADS

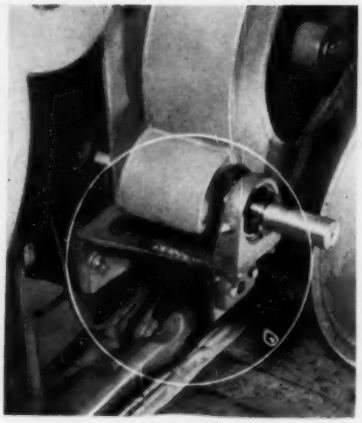
Since 1702 . . . Pioneers in Mechanical Power Transmission

For further information use Handy Return Card, Page 175



PHOTOS COURTESY DIXIE BEARINGS, INC.

Picture 2



Picture 3

receive the bolts.

A fourth member (Picture 3) is used as an outboard bearing on the S-L main drive shaft. It is mounted by cutting the angle bracket in the radius and then welding a piece of 3/8" angle iron to the bracket, slipping the bearing on the shaft, meshing the gears, and drilling the angle iron to hold the position.

These four units replace oil- or grease-lubricated cast iron bearings, which often require replacing once a year and which frequently require shaft replacement at the same time. They also cause excessive gear wear. The replacement bearings require lubrication once a year and eliminate the unsightly and dangerous grease splotches on the floor.

They are a "must" on pickers equipped with pneumatic devices for increasing lap density.

CONTRIBUTOR NO. 1282

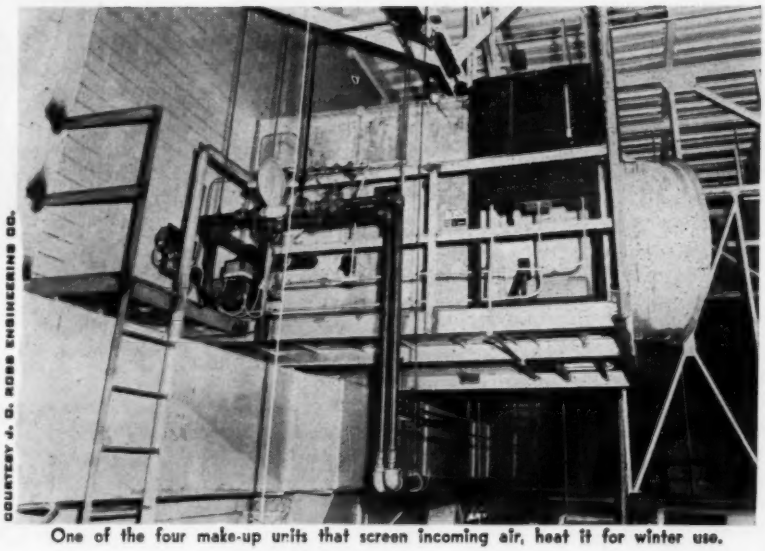
How a finishing plant solved an air replacement problem

Graniteville Company, Graniteville, S. C., has recently installed four "packaged" air make-up units of a relatively new standardized design to replace air exhausted to atmosphere by wet processing equipment.

Some 1,000,000 cfm are exhausted from dry cans, mercerizing ranges, wash ranges, resin curing ranges, and other processing equipment, and 35 to 40 exhaust hoods continuously discharge this processing air to atmosphere.

Of the 1,000,000 cfm exhausted, only about 60 per cent is replaced by heating and ventilating systems and by the circulation system designed to prevent condensation on the ceiling. Without an additional air supply, this loss of air would produce a negative pressure and cause drafts at doorways and windows as air tried to rush in to replace that which was exhausted. Exhaust fans also would have to work harder.

The new "packaged" make-up units supply 60,000 cfm each and bring the total replacement air up to 80 per cent of that exhausted. This is more than adequate by engineering standards and even allows for additional processing equipment before additional make-up capacity will be required.



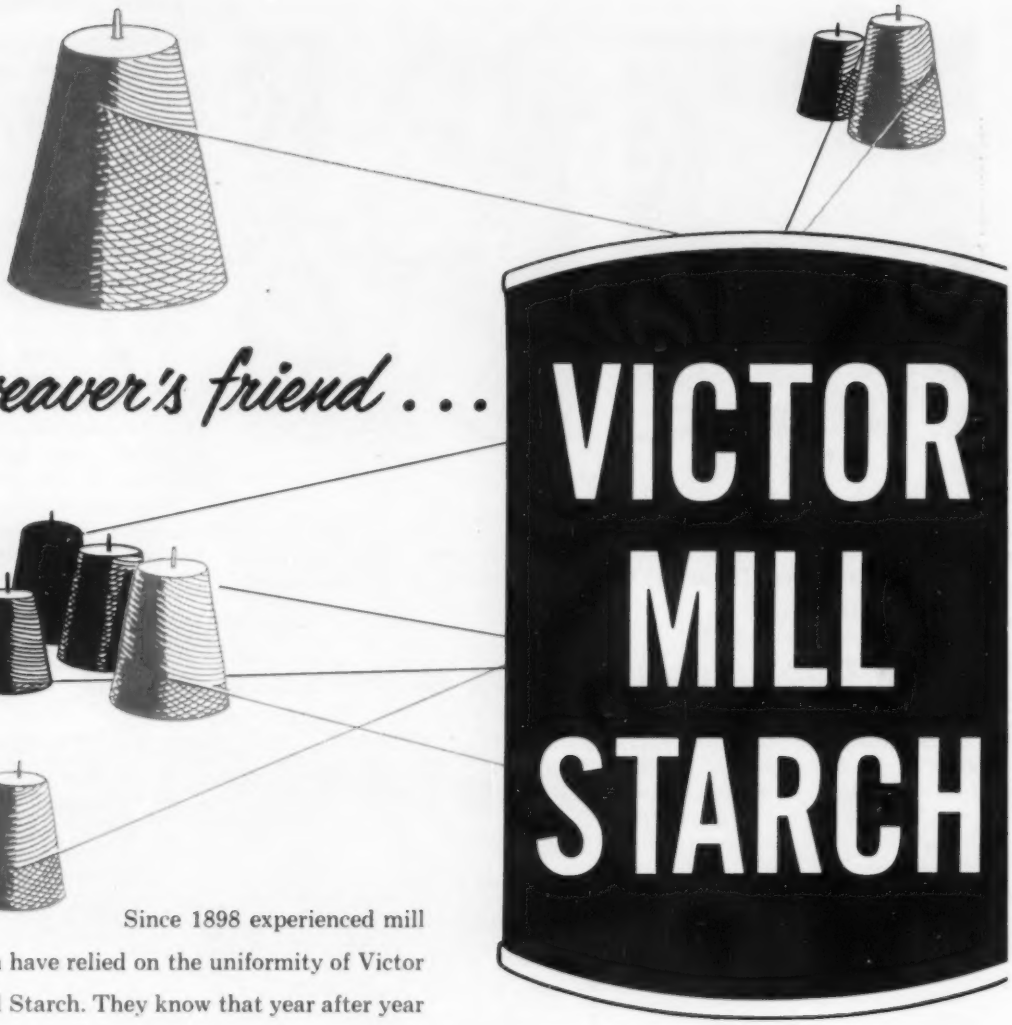
COURTESY J. O. ROSS ENGINEERING CO.

One of the four make-up units that screen incoming air, heat it for winter use.

The make-up units, 7′ x 7′ x 8′ galvanized enclosures equipped with two access doors each, fit into the outside wall-opening and are fitted with louvers, bird screens, and shut-down dampers. The inner end is equipped with an axial fan which draws air from out-of-doors and directs it into the plant.

Internal burners heat incoming air in the winter. The make-up units are insulated with a 3" thickness of rock wool all around to prevent wintertime condensation. Natural gas with propane as standby is used as the fuel, largely because of lesser maintenance requirements in comparison with steam.

An indicating controller automatically controls fuel to the burners so that outside air will be brought up to as high as 80 F. The air make-up units are mounted near the ceiling, some 18′ above the floor.



the weaver's friend . . .

VICTOR MILL STARCH

Since 1898 experienced mill men have relied on the uniformity of Victor Mill Starch. They know that year after year Victor can be depended upon for better penetration, stronger warps, greater smoothness.

They have also learned to rely on Keever technicians. When mill problems come up, they know that Keever has the experience and facilities to solve them. Let them prove it to you.

KNOWN FOR UNIFORMITY FOR MORE THAN 60 YEARS

TEXTILE SALES DIVISION
118 South Pleasantburg Drive
Greenville, South Carolina

THE KEEVER STARCH COMPANY

GENERAL OFFICES COLUMBUS 15, OHIO

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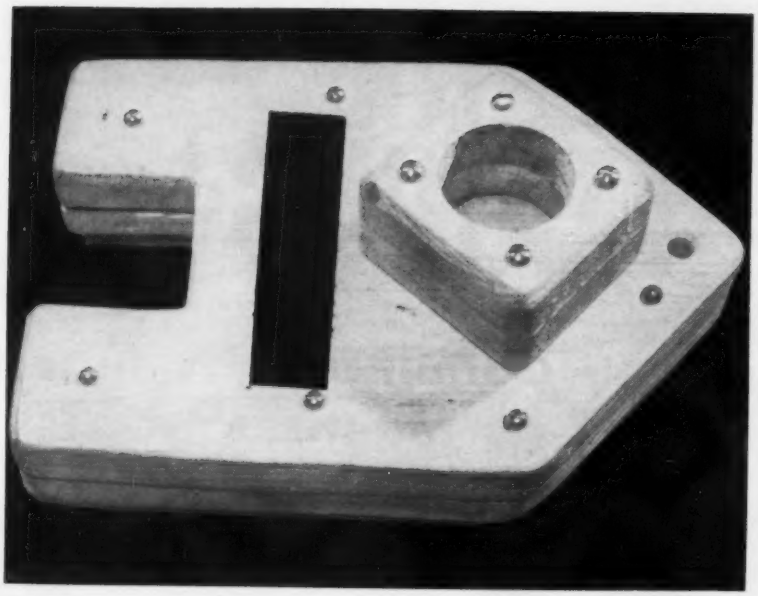


JOIN IN THE FUN!
Send Your Kinks To TI

Rules on Page 135

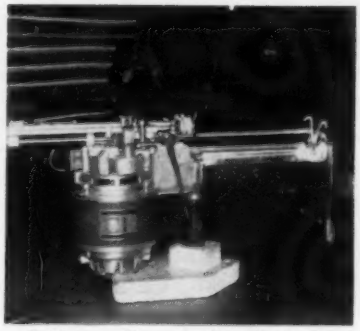
Stand for cloth cutter makes oiling easy

THE EDITORS:

Pictured here is a safety device I worked out for use in oiling and changing knives on our cutting machines we use in making garments from the goods we knit. It can be adapted to accommodate almost any make of machine, and if covered with a layer of foam rubber, it does not mar cutting table finish.

Our machines are difficult to hold in the hands and oil, because the hand wheel has to be turned slowly until an oil hole matches a port in the "Oil Here" tab. I have a suspicion that many similar machines frequently are not oiled because it's simply too much bother.

In using it to change knives, I push the machine base about two inches beyond the table edge, loosen the nut holding the knife to the crank shaft, and push the knife straight down through the base of the machine. To lay the machine on its side while removing the knife is likely to damage the table. Two of the units are in daily use in our mill.



Cutting machine on mill-made stand.

CONTRIBUTOR No. 1279

Low cost way to accurately make stock liquors

THE EDITORS:

Many sections of the dyeing, printing, finishing, and chemical industry require stock liquors which are made by blending together several liquids. These have to be made in separate batches, because they may have a certain storage life. Or, they may have to be stored for some time for aging or maturing. In addition, different finishes might be based upon the same primary solutions blended in different proportions. Examples are the preparation of printing pastes, and, in particular, the blending of resin solutions for crease-resistant and drip-dry type finishes.

The blending and storage equipment is ideally arranged on three levels with the primary solutions being blended on the top level. Storage tanks equipped with suitable stirrers are arranged along one side and facilities provided for weighing the different ingredients and then dissolving them in the appropriate volume of solvent—most often water. If a single chemical such as formaldehyde is used and is obtained in bulk, storage tanks should be arranged at this level too.

The blending vessels in which the different ingredients are combined together are best arranged in line below the primary storage tanks on the first floor level so that gravity flow can be used to transfer their contents to the impregnating or padding machines, etc., where they will be used.

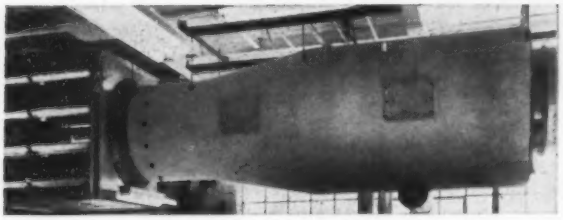
Each particular recipe may be built up of three or more single solutions or liquids from the primary storage tanks on the top floor. The problem is therefore one of transferring accurately measured volumes of several liquids to any one of the perhaps six storage tanks. Flexible hose pipes, calibrated buckets, and other measures can be used but involve a great deal of lifting and carrying. And of course these are very messy and are fertile grounds for mistakes.

A simple, accurate, and clean method of adding the required amount of liquid from any of the top primary storage tanks to any of the lower blending tanks follows: A truck or runway is installed immediately below the upper tanks and one or more calibrated stainless steel measures—holding up to, say, 10 gallons—

Continued on page 135

SELF CLEANING?
SELF CLEANING!

Carrier Rotaspray Air Conditioner reduces maintenance costs as much as 80%!



Carrier Rotaspray Weathermaker units may be installed rooftop mounted, ceiling suspended or outside wall mounted.

Its revolutionary self-cleaning action is just one of 17 reasons why the Carrier Rotaspray Weathermaker* System has proved itself far superior to conventional close-control air conditioning systems. In the majority of applications no filters are needed. Among the other reasons:

UNITARY DESIGN

Instead of one large conventional central station system serving several departments, each department has its own Rotaspray unit and can change its temperature and humidity to meet its individual needs.

SMALLER SIZE

A Rotaspray unit requires less than one-third the space of a conventional system of equal capacity.

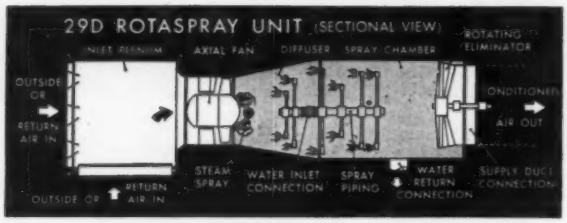
ELIMINATES MANY COMPONENTS

Units require no water strainer, water pump, water tanks, city water or drain piping. No apparatus room and no floor drains needed.

BETTER TEMPERATURE AND HUMIDITY CONTROL

Eliminates dew point control and its problems. Within Rotaspray System capacity, departments simply "dial" the temperature and humidity required.

The Carrier Rotaspray System also offers lower installation costs, superior efficiency and substantial savings in operation and maintenance. For information, write Carrier Air Conditioning Company, Syracuse 1, New York. In Canada: Carrier Air Conditioning Ltd., Toronto 14.



HOW CARRIER ROTASPRAY WEATHERMAKERS WORK

Instead of trying to keep lint and coarse airborne particles out as conventional central station systems do, the Carrier Rotaspray Weathermaker System lets them enter, separates them from the air, and returns the debris to a central point for automatic collection and disposal.

The sectional diagram of a Rotaspray unit above shows how:

- A specially designed high-velocity vane axial fan draws a controlled mixture of outside and return air into the cylindrical stainless steel spray chamber.
- Here, a finely divided water spray treats the air mixture and cleans it of dirt and airborne particles, where they drain out in the water return connection for central collection and disposal.
- As the conditioned air leaves the Rotaspray unit, it passes through an exclusive rotating eliminator that removes the entrained water particles from the air before it passes through a reheater, ductwork and outlets into the conditioned space.
- Lint and debris accumulated on fan blades and the rotating eliminators are thrown off by centrifugal force, and flushed by spray water into the spray section for immediate drain disposal. There's no "tank of water" to collect lint.
- The Rotaspray Weathermaker System offers all the advantages of unitary design with central station performance. A single refrigeration machine with chilled water storage tank and automatic strainer will handle a multiple unit system, with Rotaspray units at many remote points.

*Reg. U. S. Pat. Off.

Carrier Air Conditioning Company

A DIVISION OF CARRIER CORPORATION

For further information use Handy Return Card, Page 175

SAVE SPACE, SAVE WEIGHT, SAVE MONEY!

Dyna V

There's a *difference*, as you can see! The 10-groove D-section sheave in the foreground is replaced with the narrow 8-groove 5-V Dyna-V sheave on the line shaft. *Same power*, in a far more compact installation, with a $477 difference in price. And big future savings in belt replacement costs!

Everyone is going Dyna-V! Thousands of installations reveal that Dyna-V performance is *even better* than promised when we first introduced this new compact drive. In medium and high horsepower ranges, savings go as high as 30%!

Dyna-V can handle 3 times as much power in the same space. Dyna-V Sheaves decrease shaft overhang, increase bearing life. And Dyna-V Belts possess *all* premium qualities. Conditions requiring static conductivity or resistance to oil, moisture and heat are met by Dyna-V's one grade—the finest. Ask your Dodge Distributor, or write us for complete drive bulletin. Dyna-V Drives are available for capacities from 1 to 1500 hp.

Dodge Manufacturing Corporation, 3500 Union St., Mishawaka, Ind.

The Products with the Pluses...

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory trained by Dodge he can give you valuable assistance on new cost-saving methods.

PROFIT
IN FIRSTS . . or
LOSS
IN SECONDS

The difference in price you can get for Firsts over Seconds can give you the best Cloth Rooms in the world. And Cloth Rooms equipped with modern C & M machines catch operational mill errors faster — in opening, carding, spinning, slashing and weaving . . . can cut down the amount of Seconds sometimes as much as 100%! Alert mill management is becoming increasingly aware of the importance of better Cloth Room operation and its effect on their profit picture in plain dollars and cents . . . especially in multiple mill companies. Complaints from Converters are also reduced when better cloth finishing and inspecting procedures are followed. It's sort of like driving the best car made using the best gas you can buy with one dirty spark plug. The cost of correction is in direct proportion. If you think cutting down on your output of Seconds is worthwhile, then you, or someone in your organization should get in touch with us and talk it over. Now.

HEADQUARTERS FOR FINE CLOTH
FINISHING MACHINERY SINCE 1831

CURTIS & MARBLE MACHINE CO.

72 CAMBRIDGE STREET • WORCESTER 3 • MASSACHUSETTS
SOUTHERN SALES & SERVICE • LAURENS ROAD • GREENVILLE, S. C.

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are mounted on the rails which also traverse the blending tanks. Each measuring vessel is equipped with a suitable tap, and the track extends beyond the tanks to a small rinsing bay where the measuring vessels can be easily cleaned by running water through them.

By this means it is a very straight-forward operation to run the required volume of a primary solution into the measuring vessel and then push it along the track to any blending tank for the liquid to be run in through the valve—either quickly or slowly as is desirable.

Experience shows that this method of material handling, storing, and blending leads to considerable economies and also to more accurate formulation.

CONTRIBUTOR No. 1269

WIN $100

with the best entry to TI's Kink Contest which ends April 15.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for at current space rates immediately upon acceptance, and the $100 award will be made to the winner as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1961.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

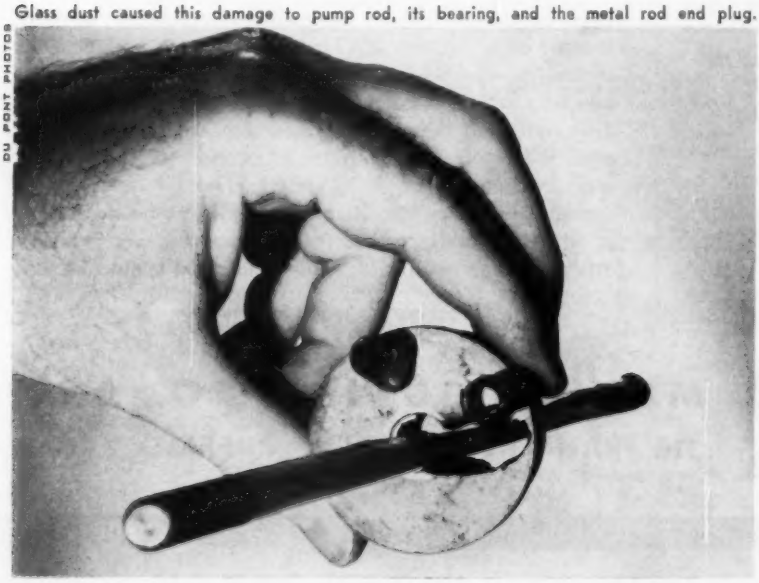
► Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

How urethane rubber licked a glass yarn quilling problem

Adiprene urethane rubber is **now used in six major moving** parts of the Unifil winder where once metal failure resulted from using the units to quill glass yarns. Fine glass particles act as abrasive dust to accelerate wear. As a spindle brake disk, the rubber stops spindle rotation within a couple of turns after power is released, compared to the previous five or six accompanying metal-to-metal braking surfaces.

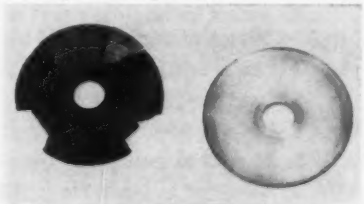
Other parts include: (1) the bearing for the reciprocating shaft of the air pump used to pick up loose ends; (2) upper pulley bushing for the belt carrying empty bobbins from the stripper to the magazine; (3) the friction clutch that holds the bobbin during winding; (4) a traverse rod bushing; and (5) the rotary holder wiper that guides abrasive cut yarn ends by friction across a metal surface to the pick-up point on a fresh bobbin.

Glass dust caused this damage to pump rod, its bearing, and the metal rod end plug.

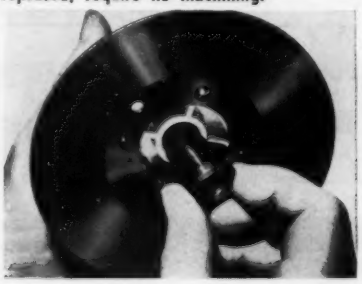


DU PONT PHOTOS

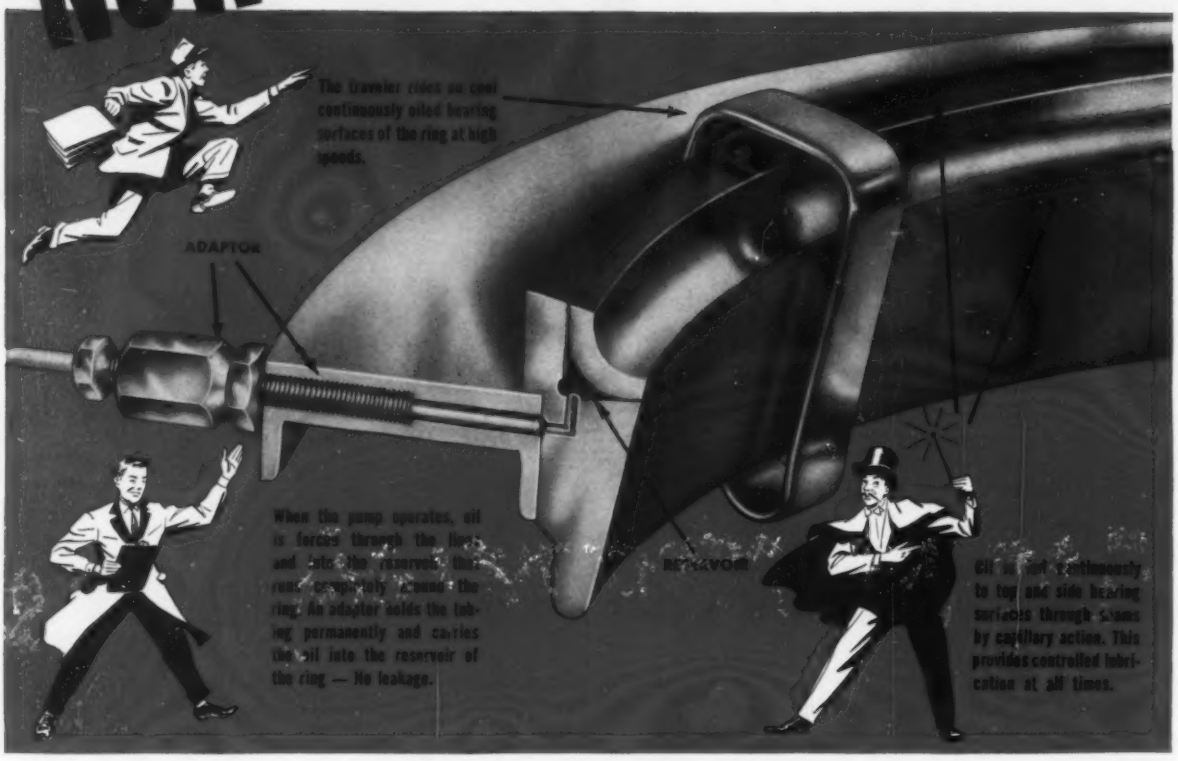
The urethane rubber far outlasts other rubber in rotary holder wiper use.



Flexible inserts of the rubber are readily replaced, require no machining.



NOW Controlled, Automatic Pressure Lubrication Ideal When Used on "M" Type HERR Conical Rings!


The traveler rides on cool continuously oiled bearing surfaces of the ring at high speeds.
ADAPTOR
When the pump operates, oil is forced through the line and into the reservoir that runs completely around the ring. An adapter holds the tubing permanently and carries the oil into the reservoir of the ring — No leakage.
RESERVOIR
Oil is fed continuously to top and side bearing surfaces through seams by capillary action. This provides controlled lubrication at all times.

Each stroke of the oil pump piston is timed to provide the minimum amount of oil to lubricate the path of the traveler. No excess or waste!

RESULTS:

1. Cooler operation of Ring and Traveler.
2. Provides longer traveler life.
3. Uniform tension of the yarn at all times due to adequate lubrication of the traveler.
4. Positive assurance of correct oil supply.
5. Faster operation possible.
6. Less ends-down.
7. Oil waste eliminated.
8. No oilcans, no dripping, no overfilling. No labor or supervision required.
9. Keeps costs down.

Always a step ahead, Herr "M" Type Rings are now designed for pressure lubrication from a centralized lubrication system. Oil cups have been eliminated. The oil is introduced through newly designed adapters directly to the annular supply reservoir. (This reservoir runs completely around the ring.) From this reservoir the oil moves continuously by capillary action through the top and side seams. This controlled lubrication assures just the right amount of oil to the traveler. Controlled lubrication because of the special design of Herr "M" Type Rings is entirely self contained. There is no excessive oil, no waste—no overflow of oil to coat other parts of the machine. It is clean lubrication insuring clean yarn without increased maintenance.

Write for complete information.

HERR MANUFACTURING CO., INC.
310 FRANKLIN STREET • BUFFALO 2, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

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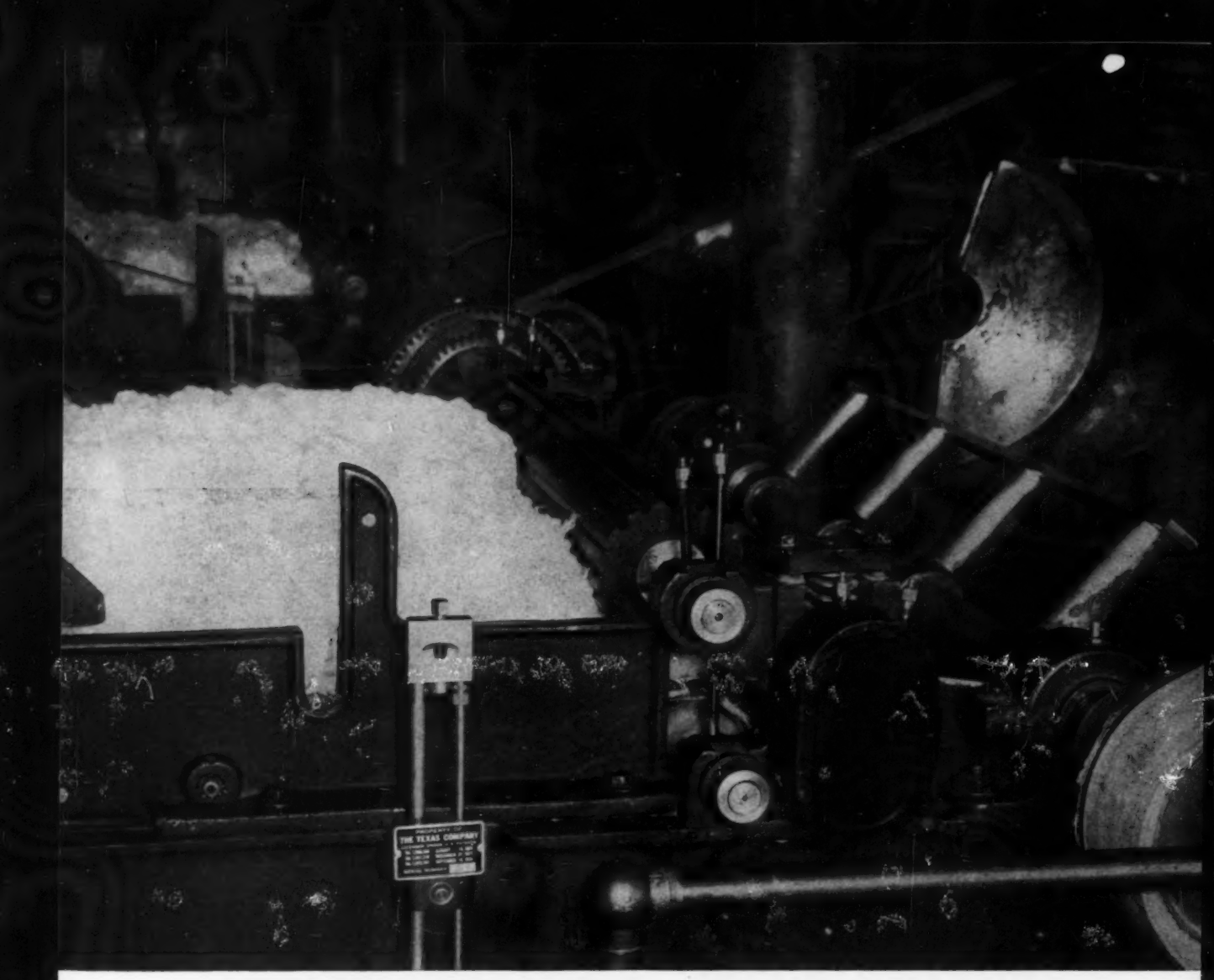


IF YOU WANT TO BE CONVINCED ABOUT THE EFFECTIVENESS OF COTTON CONDITIONING COMPOUNDS...

Here are the proven benefits of Texspray

Yarn is smoother. Texaco Texspray Compound increases fiber flexibility by replacing natural oils; so fibers draft more easily and uniformly, with fewer ends down.

Staple is longer. Texspray conditioning produces a larger percentage of long fibers . . . preserves them against breakage in later manufacture.

Static electricity is sharply reduced. And, in addition, Texspray practically eliminates fly and dust—often by more than 75%!

Finishing is unaffected. Texspray is completely removed in the preparatory wash. Grey goods can be dyed or printed without altering color values.

Let a Texaco Lubrication Engineer show you where Texspray fits best into your operation. He will be glad to analyze your requirements, make complete recommendations. Just call the nearest of the more than 2300 Texaco Distributing Plants, or write Texaco Inc., 135 East 42nd Street, New York 17, New York.

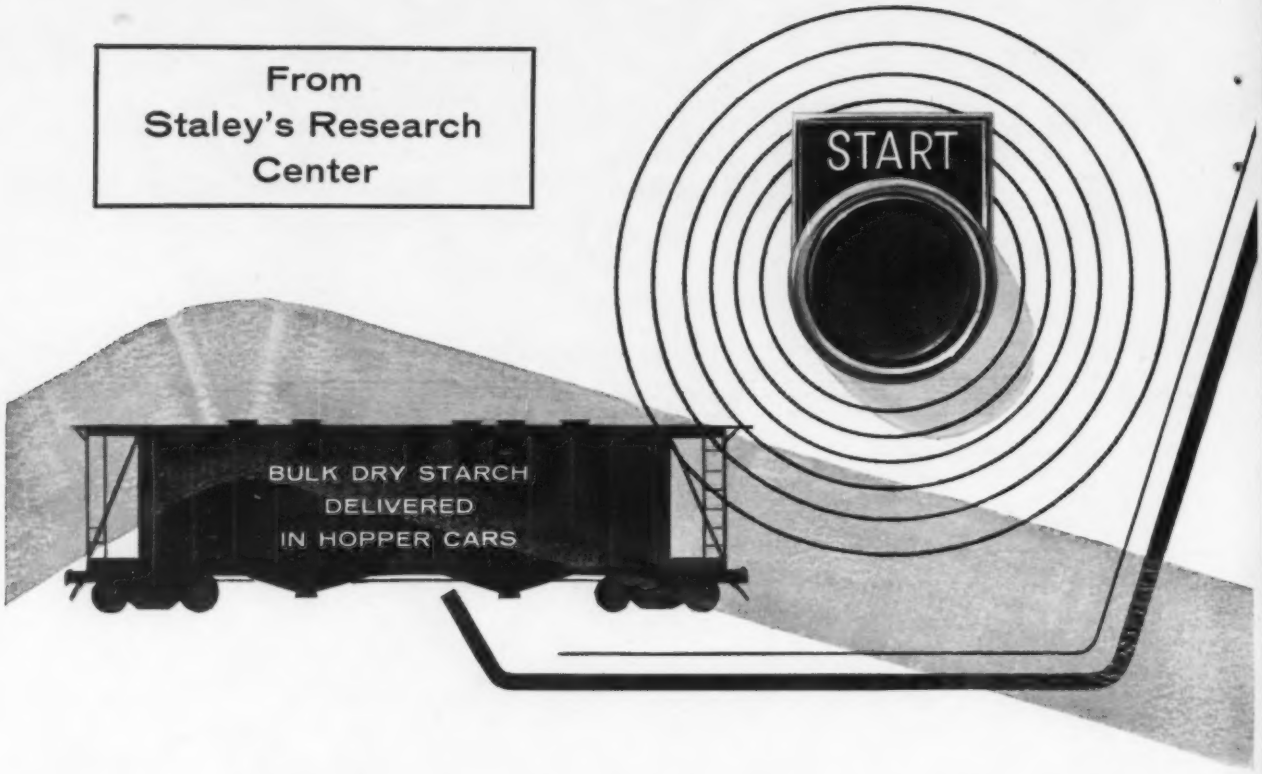
Tune In: Texaco Huntley-Brinkley Report, Mon. Through Fri.-NBC-TV

TEXACO

Throughout the United States

Canada • Latin America • West Africa

From
Staley's Research
Center



Push-button automation in size

—and the revolutionary new high-temperature converter—developed by Staley's—makes it possible!

Invented after years of research by the A. E. Staley Mfg. Co., the High Temperature Converter is more than a mere cooking device. It's an amazing *new system* that transforms low cost pearl starch into a UNIFORM VISCOSITY, "thin boiling" size, with the exact viscosity and stability, the exact properties and size characteristics you need.

And—when working with other automation components, the high temperature converter provides complete and automatic control of the starch at every step—from hopper car to slurry tank to size boxes.

Just push the button. In less than 10 minutes, the converter delivers not just a batch but a *constant supply* of the precise, *uniform* warp size you desire—at definite savings.

What about quality? The finished warp size possesses high uniformity in solids concentration, viscosity and degree of conversion. Forms clear, flexible films with noticeably improved adhesion. Affords outstanding viscosity stability with exceptional resistance to breakdown and aging! Sizes produced have noncongealing characteristics similar to some of the high priced and premium starches on the market.

Although there are many factors other than size which influence weaving efficiency, many mills report definite improvements in slashing and weaving performance, such as: (1) Quicker start-up of slashers, (2) Greater uniformity of add-on, (3) Reduced hard-size on boxes and yarns, (4) Less breaking, less ends out of lease, (5) Less scum in size boxes, (6) Smoother sized yarns, (7) Loom stops substantially reduced, (8) Definite reduction of hard-size streaks, (9) Fewer stuck ends, (10) Greater ease of drawing-in, (11) Marked reduction in seconds.

These are but a few highlights. For complete data on Staley's new High Temperature Converter and how it affords textile mills new savings, new production efficiencies, new profit opportunities heretofore unattainable, see your Staley Representative, or write:

A. E. STALEY MFG. CO.
Decatur, Illinois

ATLANTA • BOSTON • CHICAGO • CLEVELAND • KANSAS CITY • NEW YORK • PHILADELPHIA • SAN FRANCISCO • ST. LOUIS

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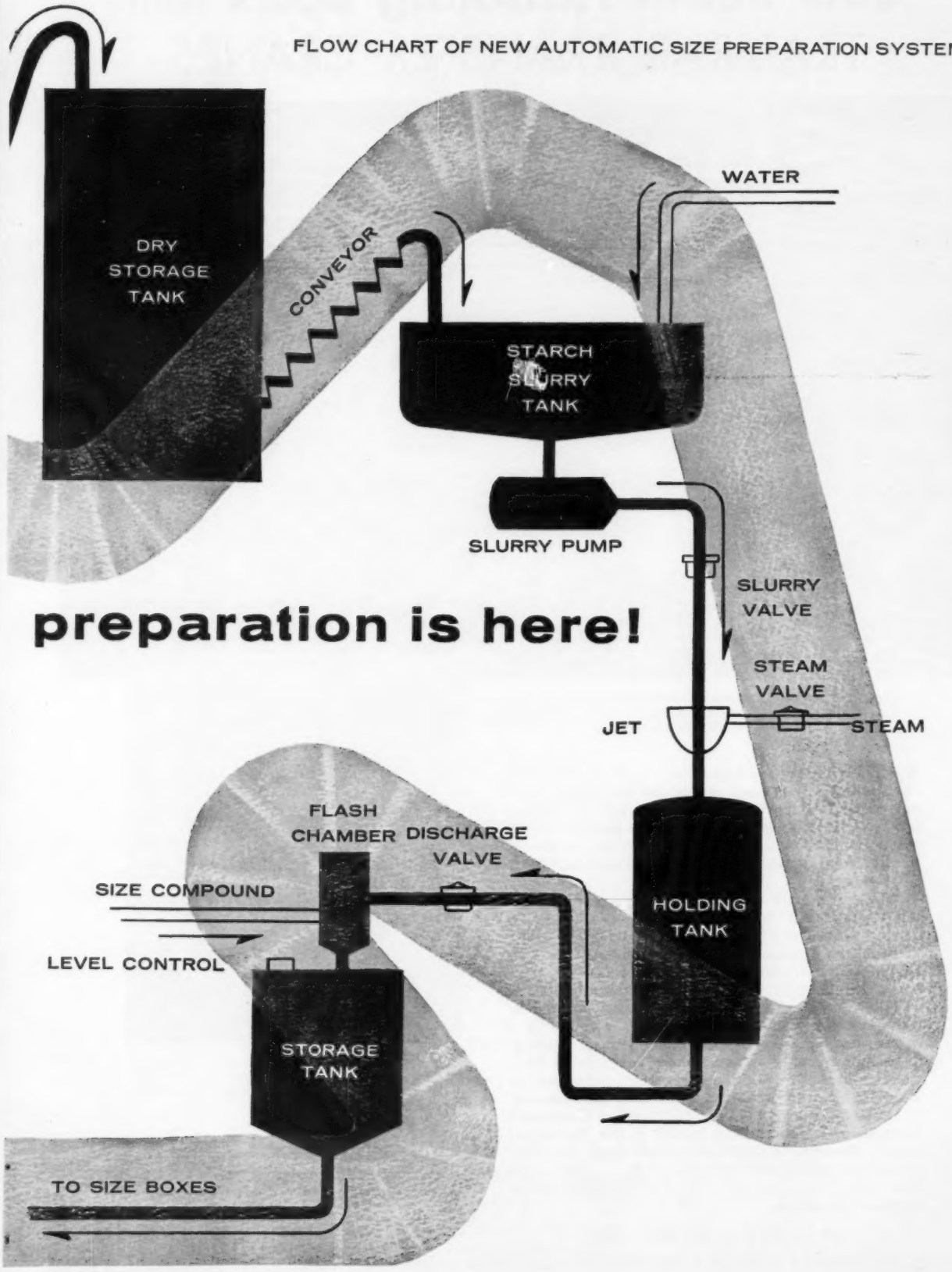
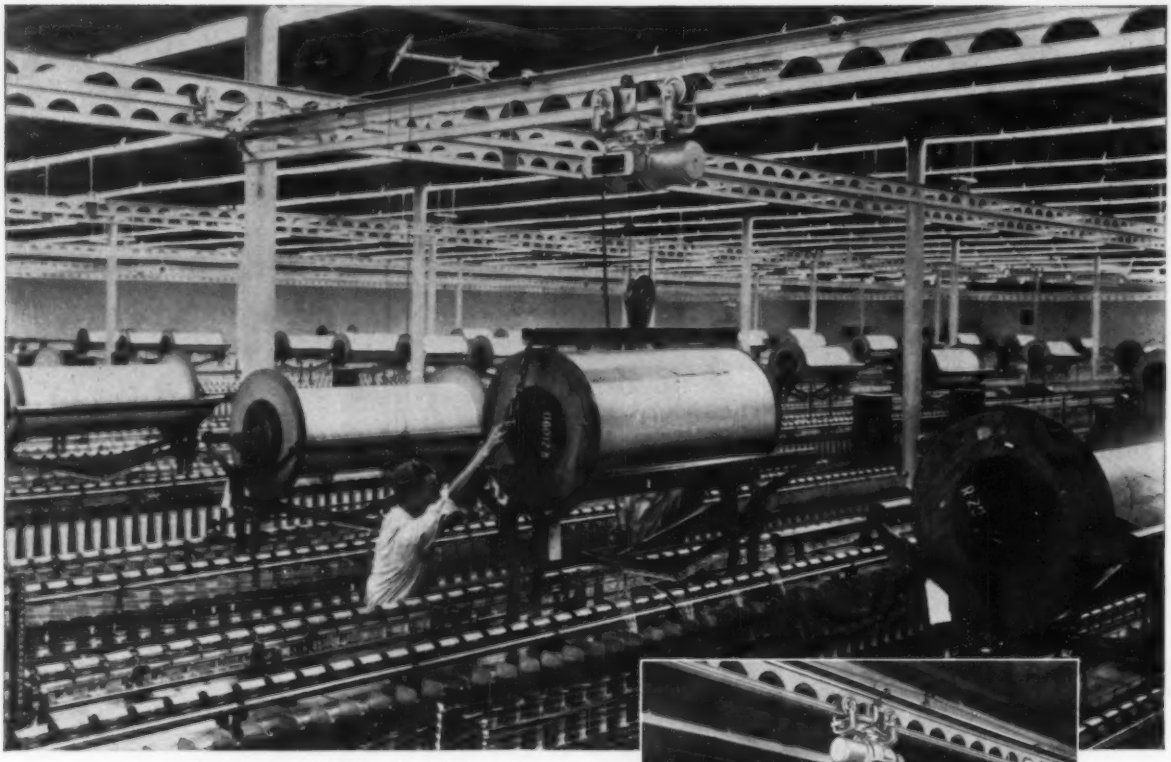
FLOW CHART OF NEW AUTOMATIC SIZE PREPARATION SYSTEM



preparation is here!

Cuts Beam Handling Costs with TRAMRAIL TRANSFER CRANES



Hand propelled Cleveland Tramrail cranes with electric hoists make the handling of heavy beams to twisters an easy one-man job.

WITH floor space so expensive, doesn't it make sense to use your ceiling for the conveyance of beams? That is what you do when you use Cleveland Tramrail transfer cranes. They permit you to move beams to all parts of a room on overhead tracks. Need of wide aisleways for beam handling is eliminated.

Transfer cranes may be locked together by an automatic latch without jiggling, permitting a loaded carrier to be traveled from one to the other to reach any point desired. They move free and easy above machines and floor obstacles. They do away with floor damage and costly maintenance.

When beams are handled overhead, more machines (twisters, looms, etc.) can be installed in a room because they can be spaced more closely. That means greater production per square foot. Because it is easy to pile beams high, more can be stored in a storage area and again floor space saved.

There are many, many installations of Cleveland Tramrail cranes handling beams in the Textile Industry. Because of their many advantages, we welcome the opportunity of arranging a visit to one near you where you may learn what the possibilities are first hand.

Write for free booklet—2008.

With a crane, overhead beams can be piled high with no effort and thereby a great deal of floor space saved.

CLEVELAND TRAMRAIL

Overhead Materials Handling Equipment

CLEVELAND TRAMRAIL DIVISION • THE CLEVELAND CRANE & ENGINEERING CO. • 2883 E. 287 ST. • WICKLIFFE, OHIO

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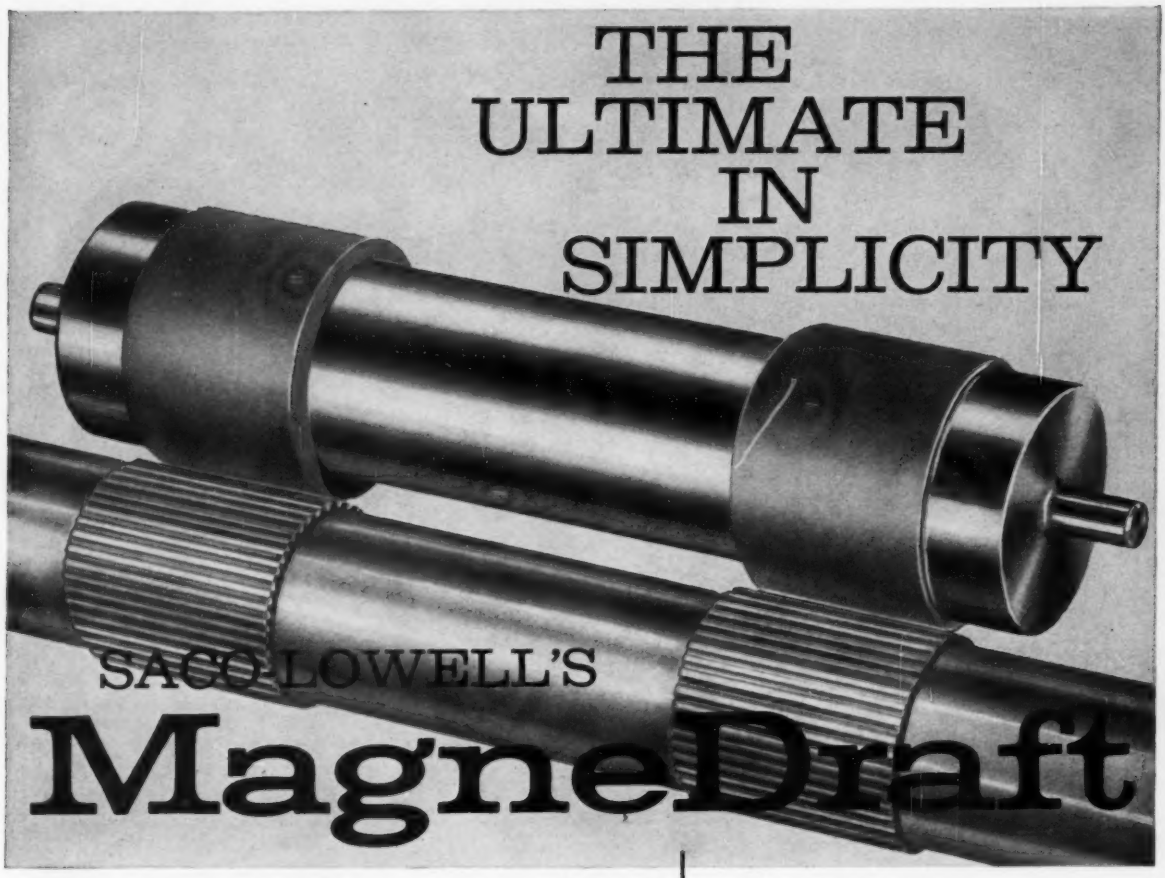
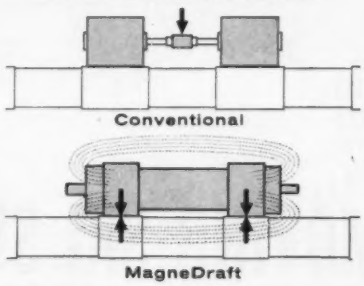


MagneDraft*, using the forces of magnetic attraction to produce required roll pressures, gives the cleanest, most efficient operation of any spinning drafting element ever developed. *Completely eliminated are saddles, stirrups, levers, hooks, springs, and weights* used with conventional drafting systems. Most important — MagneDraft requires *no lubrication* (oil or grease) in the drafting zone. Maintenance costs are reduced to an absolute minimum due to the few component parts. A unique method of supporting the front top roll makes piecing-up around the end a very quick and simple operation.

MagneDraft installations in leading mills are producing yarns of superior quality with a substantial reduction in drafting gear wear and power consumption. Get all the facts from your nearest Saco-Lowell sales office.

*U.S. Pat. No. 2,686,940

WORN NECKS ON STEEL ROLLS ELIMINATED



The mutual attraction of the magnetic forces gives a "squeezing together" pressure at the nips, instead of the "pushing down" between the cots of the conventionally weighted top roll. This greatly reduces wear in the entire drafting element, eliminating worn necks on steel rolls.

THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

Saco-Lowell Textile Machinery Division

SACO-LOWELL SHOPS

Executive and Sales Offices: EASLEY, SOUTH CAROLINA

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TOUGHNESS!
RESILIENCE!
DURABILITY!
PROVED ON...

A MOVING SKI SLOPE OF TEXTURED CAPROLAN

Slashing skis, snowplowing to a halt—the crushing impact of a spectacular geländesprung—the twisting and turning of swift slalom races—all so beautiful and expected on a mountain run—so unthinkable on carpet!

But it's been proved so practical and economical on Textured Caprolan® nylon!—the carpet fiber 1,500,000 people didn't wear out at New York's Penn Station!

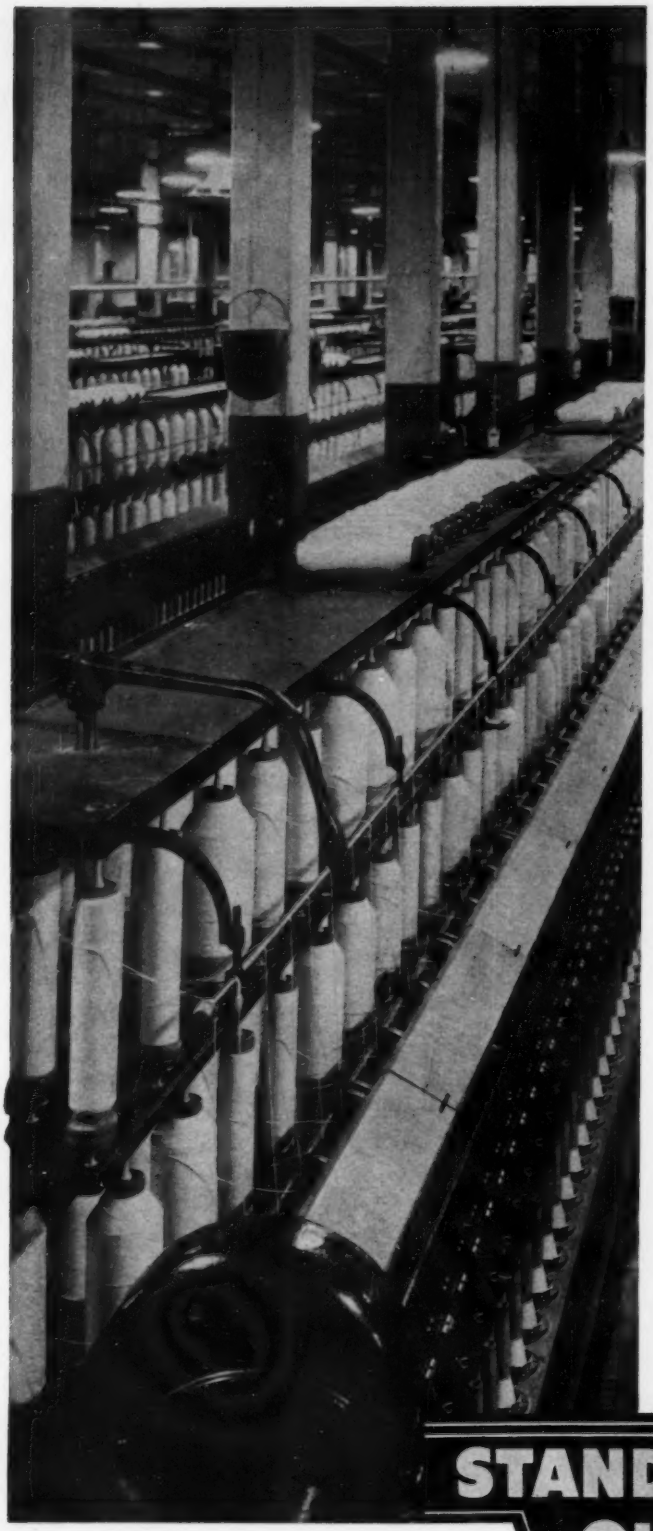
An exciting new neighborhood sport for the 60's, introduced at New York's Winter Sports Show, is the automatic ski slope—perfected only after the advent of Textured Caprolan. Wool and other famous carpet fibers could not survive the hour-after-hour abuse inflicted on the carpeted surface of the ski slope, yet month after month, beautiful, white Textured Caprolan is rendering dependable service to ski enthusiasts who use the new device.

It's just one more example of Caprolan's toughness and versatility—and just one more reason why Caprolan nylon heavy yarns are enjoying increasing use in fire hose, seat belt webbings, cordage and dozens of other industrial applications where toughness, strength and flexibility are essential. If you need a tough yarn for a tough job, look into Caprolan heavy yarns. Our technical service end-use development and fiber application staffs are ready to help.

caprolan
NYLON FOR THE 60's

Allied Chemical Fiber Marketing Dept., 261 Madison Ave., New York 16, N.Y.

For further information use Handy Return Card, Page 175



good buy forever

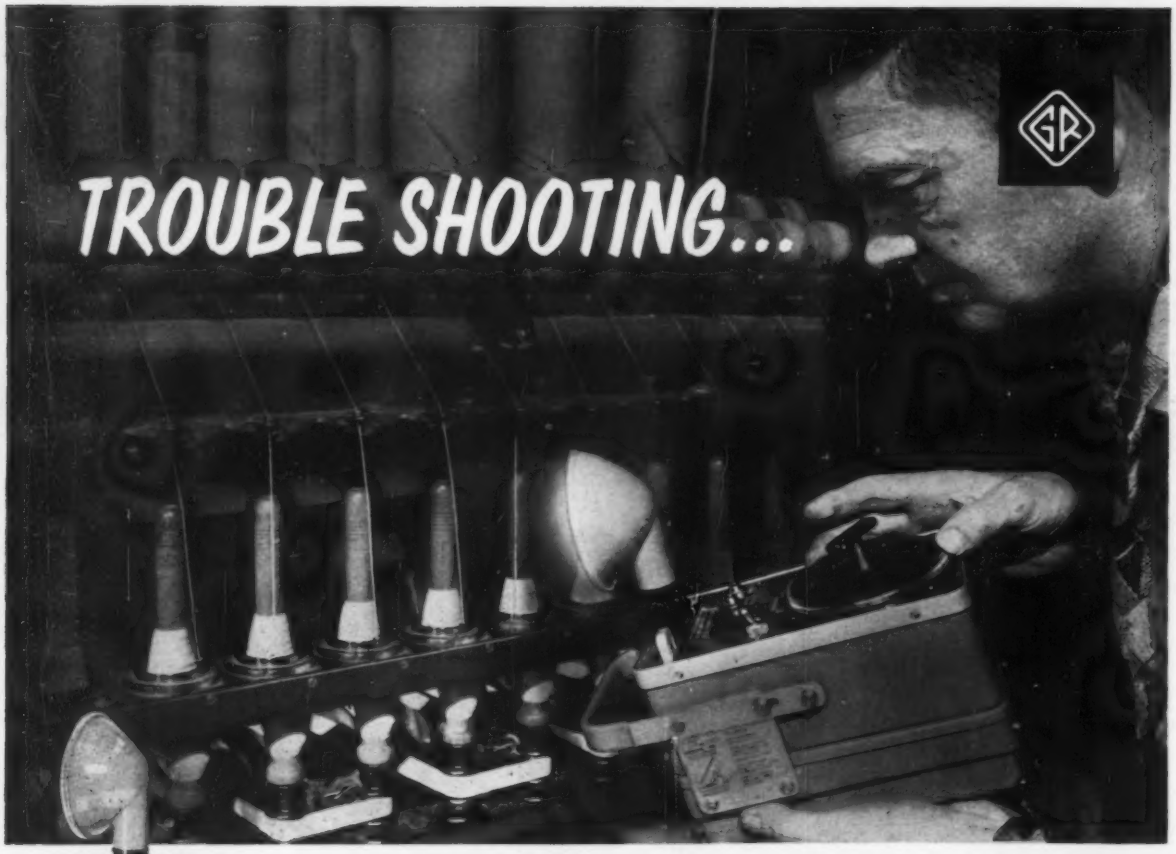
Three generations of textile engineers have found that the *dependable* quality and uniformity of STANDARD OIL Lubricants have enabled them to say *good-bye* to down time due to faulty lubrication.

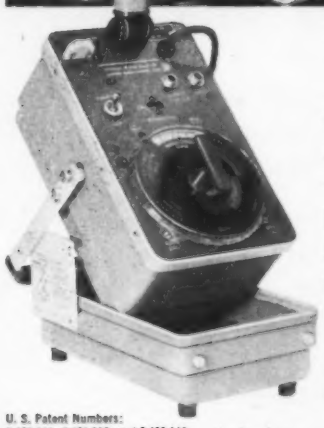
Whatever your lubrication requirements, there's a STANDARD OIL Lubricant "tailored" to fit your need—designed to do your particular job with speed, economy and efficiency.

STANDARD OIL Lubricants have behind them the largest combined facilities for testing and research in the world. These facilities are available to tackle your problems, where they involve a new or unusual lubricant.

STANDARD OIL LUBRICANTS

STANDARD OIL COMPANY
(KENTUCKY)





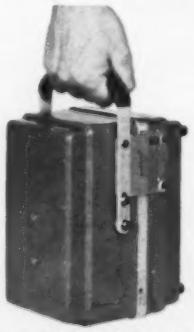
U. S. Patent Numbers: 2,478,901; 2,478,907; and 2,492,142
Patent Pending; Patent Applied For.

with STROBOTAC

This new Strobotac with its "long-throw beam" of intense, white light has unlimited uses in the textile plant. With it you can spot wrong spindle speeds — crooked idlers — worn travelers — spindles out of plumb — excessive band and tape slippage — poor spindle spring pressure — crooked or worn bobbins — uneven rings — slapping balloons — and many other spinning room problems. The Strobotac is equally useful for observation of loom shuttle action, and operation of roving machines, knitting machines, and other types of equipment.

Type 1531-A STROBOTAC®
electronic tachometer and motion analyzer . . . **$260**

- **Intense, white light** — 70 times brighter than previous model.
- **Short duration flash** — eliminates blur and lets you study details previously impossible to see.
- **Long throw beam** — enables operator to check rows of spindles from the aisle as he walks by, thus speeding up spinning frame checks.
- **Extended speed-measuring range** — to 25,000 rpm, direct reading; lower limit is 110 rpm, direct reading; lower with external contactor.
- **Accuracy** — ±1% of dial reading. • **Weight** — only 7½ pounds.



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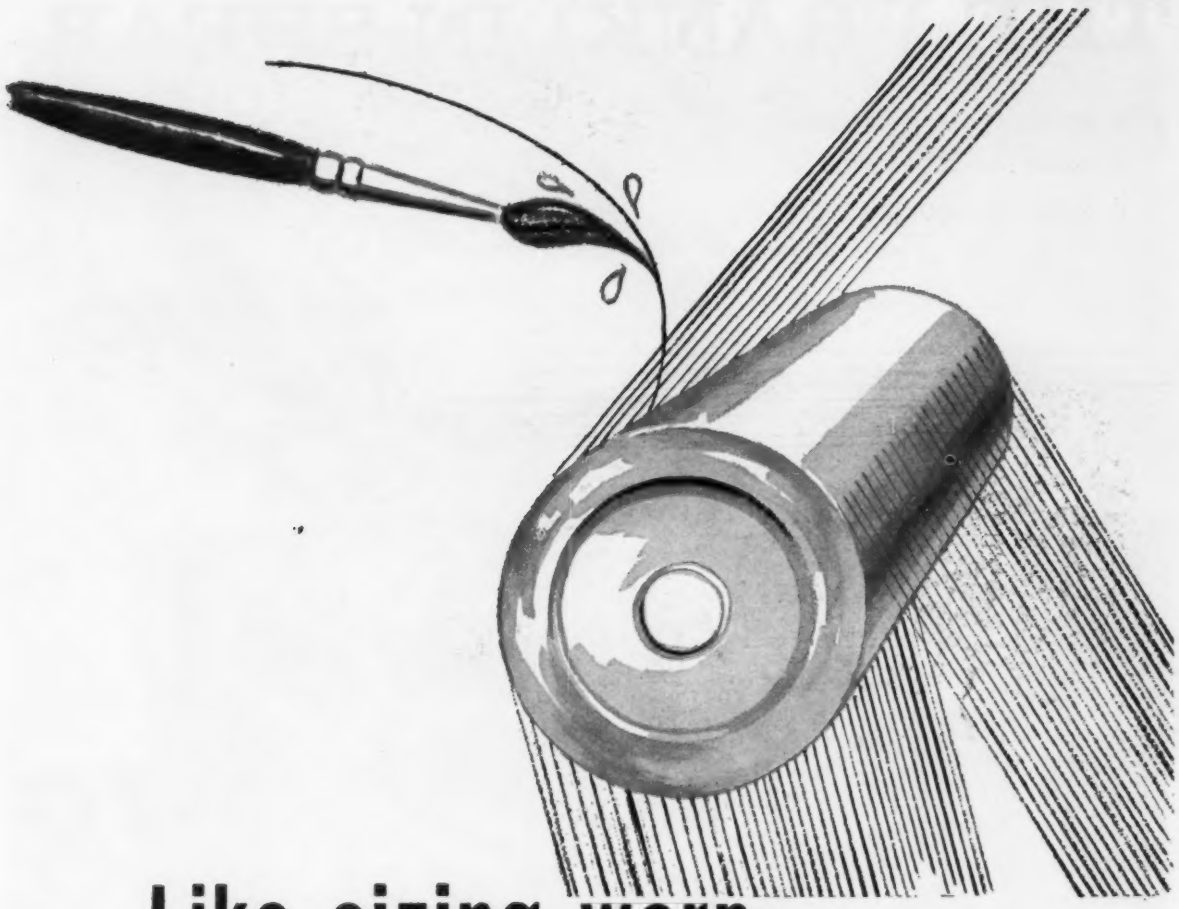
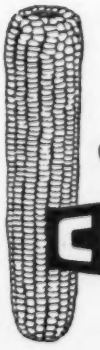
For further information use Handy Return Card, Page 175



Like sizing warp "end by end"

Weaving at high efficiency goes back to the depth and uniformity of warp sizing. CLINTON starches reach warp ends *completely*, to give yarn increased strength and a friction-free surface. At the slasher and loom, shedding is minimized. In the finishing operation, CLINTON starches give the proper hand and body to your fabrics. To assure consistent quality from warp sizing to finishing, you can always count on dependable CLINTON starches . . . the standard of comparison in leading textile mills.



CLINTON CORN PROCESSING COMPANY

CLINTON **CLINTON, IOWA**

THE FRANKLIN SHEAR-

- with new accuracy
- new uniformity
- new smoothness

Put a whole new face on woolens, worsteds, synthetics, knitgoods and high pile fabrics with this new Gessner finishing Machine.

Revolver and knife, anchored to the main frame, reduce vibration and chatter, to produce a remarkably accurate and even cut — every inch of it uniform and smooth. We hope you will want to know more about the Franklin Shear.

DAVID GESSNER CO.

WORCESTER, MASS.

Southern Representative:
Richard A. Herard,
222 Piedmont Bldg., Greensboro, N. C.

Western Representative:
E. G. Paules & Co.,
1762 West Vernon Ave., Los Angeles, California

Canadian Representative:
W. J. Westaway,
Montreal, Quebec; Hamilton, Ontario

For further information use Handy Return Card, Page 175

NEW PRODUCT PARADE

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.

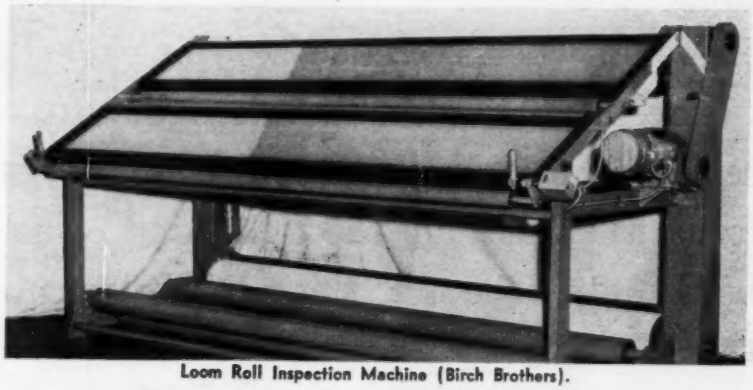
Inspect both sides of cloth at same time with this table

A fabric inspection machine recently introduced allows a loom roll to be placed into the roller cradle at the front of the machine and cloth from it passed over the divided inspection table so that one side is inspected on the lower half of the table, with the other side being simultaneously inspected on the top half of the table. Each half of the table has its own fluorescent through-lighting unit. After inspection, the fabric is rewound on the single-drum, surface-drive rewinder at the rear of the machine.

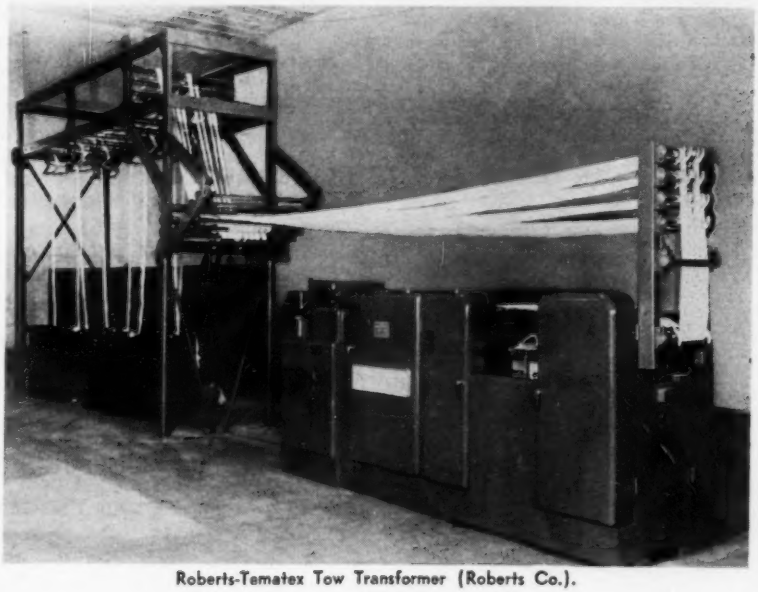
A convenient, base of table "forward-stop-reverse" control is provided, making control of the constant speed brakemotor drive exceptionally easy. Optional features: variable speed drive, foot control, and yardage counter.

Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

Do you want more data? Write supplier or use postage-free card on page 175; list B-101



Loom Roll Inspection Machine (Birch Brothers).



Roberts-Tematex Tow Transformer (Roberts Co.).

Tow-to-top machine features high output, versatility

Production of up to 140 lb/hr of top from tow for the manufacture of conventional or high-bulk long-fiber yarns is obtainable on the Roberts-Tematex Tow Transformer, a highly versatile combination tow-to-top converter and gill box.

The new machine makes normal top from normal tow such as Dacron, nylon, dynel, Vycron, Fortrel, Kodel, and rayon; high-bulk top from normal tow such as Orlon, Acrilan, Creslan, and Zefran without the need for second-operation heat relaxing; and high-bulk top from two-component tow such as Orlon Sayelle. It can either cut the continuous filaments or heat-stretch them before cutting into fibers of predetermined lengths of from 2½" to 8". A square cut diagram or a variable length cut diagram can be produced.

Included in the machine are a highly effective infeed with hydraulic weighting of the gripping rolls, an optional heated pre-stretch

it could be that you're UNHUBINGERED

The symptoms are there. The furrowed brow. The deep concern about production and results that are not quite good enough. You're beginning to notice the typographical errors in your secretary's typing (the doll). You wonder if you'll ever find the right textile starches. You harbor serious thoughts about quitting the game.

Perish forbid! Chances are the right kind of help will clear things up beautifully. The first thing to do is contact the nearest one of the following:

Ira L. Griffin & Sons	Joe R. Myers	Carl F. Merritt	New York Office	Boston Office
P.O. Box 1576	1817 Dell Drive	Box 346-A	500 Fifth Avenue	192 State Street
Charlotte, N. C.	Columbus, Georgia	Piedmont, S. C.	New York 36, New York	Boston, Massachusetts
(*Phone:* **Franklin 6-5583**)	(*Phone:* **7-2244**)	(*Phone:* **Greenville 2-0424**)	(*Phone:* **Longacre 5-4343**)	(*Phone:* **Capitol 7-3268**)

OR OUR OFFICES IN CHICAGO, LOS ANGELES, AND KEOKUK, IOWA

Naturally, the Hubinger rep is going to suggest OK Brand Textile Starches. Also, he'll see that you get the benefit of Hubinger's technical staff and research laboratories, the best in the industry. And, if you should need a special starch for a special sizing, finishing or printing process, rest assured that it will be supplied. Like they keep saying in too many fancy magazine ads—good things begin to happen to you as soon as you get in touch with Hubinger.

OK BRAND

TEXTILE DIVISION

THE HUBINGER COMPANY

KEOKUK, IOWA

For further information use Handy Return Card, Page 175

zone with automatic controls, a cutting unit which performs a fracturing operation through a helicoidal cutter, and a single-head "Para-Drafter" gill box to perform one pinning operation to evenly distribute and parallelize the cut fibers (this last process may eliminate some subsequent gilling operations). The gill box head feeds through a crimping box to give cohesion and compactness to the sliver which is then delivered through a ball-bearing coiler into a 24" x 36" can which holds from 40 to 70 lb, depending upon the fiber.

Roberts Co., Sanford, N. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-102

Spin better yarn more efficiently with these cots

Two cots recently introduced last longer, produce more uniform yarns, and improve operating efficiency. Ideal when used in combination, with the X-35 on the back line and the X-98 on the front, the cots are all-purpose, handling yarns of any size from 3s to 140s on any type of system.

Reduction of static problems encountered with synthetics and cleaner spinning (little fiber is left on clearers) are other benefits to be derived by using these cots.

The heavy-duty surface of the X-35 cot, which is compounded of an entirely new element, assures positive grip and breaks up surface tension on all fibers. The X-98 contains a completely new surface formulation.

Dayco Textile Products Co., 401 South Carolina National Bank Bldg., Greenville, S. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-103

Spindles need lubrication only once every 5 years

Ball bearing warp and filling spindles were recently added to the "Cometsa" line of antifriction spinning and twisting spindles which feature a vibration absorption system that permits them to revolve smoothly over a very wide range of speeds even when unbalanced packages are used on them.

Fafnir sealed and prelubricated ball bearings are utilized in these new spindles; hence, relubrication is required only once every five years. Other construction features: steel whorl with diameters as small as 1", hardened steel blade, aluminum sleeve and steel tip (on warp spindles).

Edward B. Rock, 666 Fifth Ave., New York 19, N. Y.

Do you want more data? Write supplier or use postage-free card on page 175; list B-104

Straps up to 4 boxes of textiles a minute

Boxes or cartons of textiles are automatically compressed and strapped at the rate of four a minute on the Acme Steel Automatic Compression-Strapping Machine. Operator fatigue is greatly reduced as the machine is completely pushbutton operated.

Utilized in the machine is the new Model F7 strapping head which feeds as well as tensions the strap and has a complete strap track that eliminates strap threading by the operator. The machine applies up to three straps simultaneously. It is equipped with electrically-powered conveyor rolls which are reversible for easy movement of the package into and out of the machine.

Acme Steel Products Div., Acme Steel Co., 135th & Perry Ave., Chicago 27, Ill.

Do you want more data? Write supplier or use postage-free card on page 175; list B-105

Yarns stay clean on this versatile winder

Cleaner yarn is produced and danger of oil soilage is eliminated on the new Fletcher Speedex Winder-Redraw which is designed so that the yarn area requires no lubrication. Operating at speeds up to 500 ypm on 8-oz bobbins and 750 ypm on 2-lb bobbins, this winder offers maximum versatility in that it produces any of three styles of bobbins, any one of which can be made by a minor change in the traverse motion, in the widest variety of sizes.

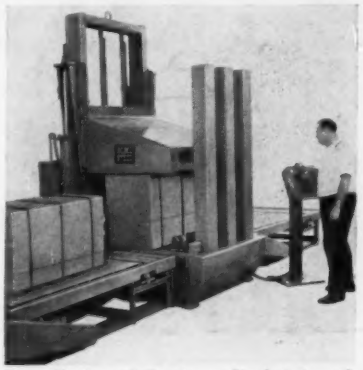
The lathe principle utilized to hold the bobbins on fixed centers provides precision rotation which eliminates vibration. Smooth traverse motion gives perfectly wound bobbins.

Fletcher Industries, Inc., Cheltenham, Pa.

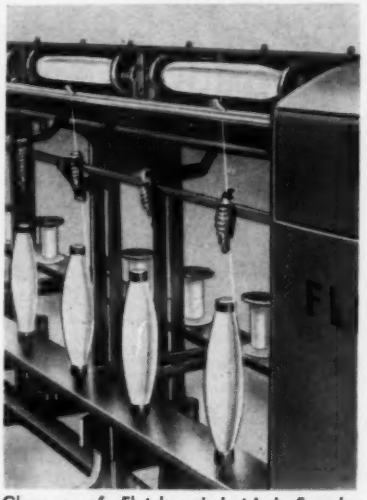
Do you want more data? Write supplier or use postage-free card on page 175; list B-106

300-lb washer-extractor uses 100-amp, 220-volt a-c current

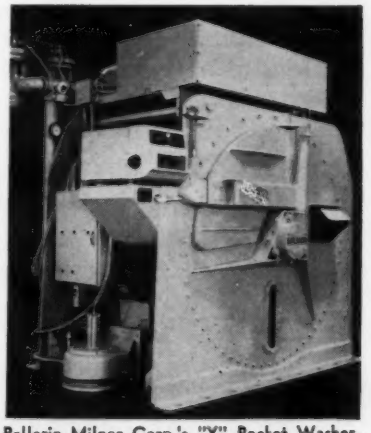
Among the features of a new 300-lb-capacity combination washer and extractor which is particularly suitable for wet processing operations in knitting and tufting plants are: large, convenient loading door; high-speed, two-stage extraction; the ability to perform short-duration intermediate extractions that require a total lapsed time of only one minute; and



Over-all view of the Acme Steel Automatic Compression Strapping Machine.



Close-up of Fletcher Industries' Speedex Winder-Redraw.



Pellerin Milnor Corp.'s "Y" Pocket Washer-Extractor.

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DRONSFIELDS' PATENT

ATLAS BRAND

EMERY FILLET

U.S.A. Patent 2426441

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For further information use Handy Return Card, Page 175

automatic supply injection. Known as the Milnor 300-lb "Y" Pocket Washer-Extractor, the machine requires only a 100-ampere electrical service for operation on 220-volt, 3-phase, 60-cycle current.

Pellerin Milnor Corp., P. O. Box 19264, New Orleans 19, La.

Do you want more data? Write supplier or use postage-free card on page 175; list B-107

Circular knitter makes 15-foot-wide carpeting

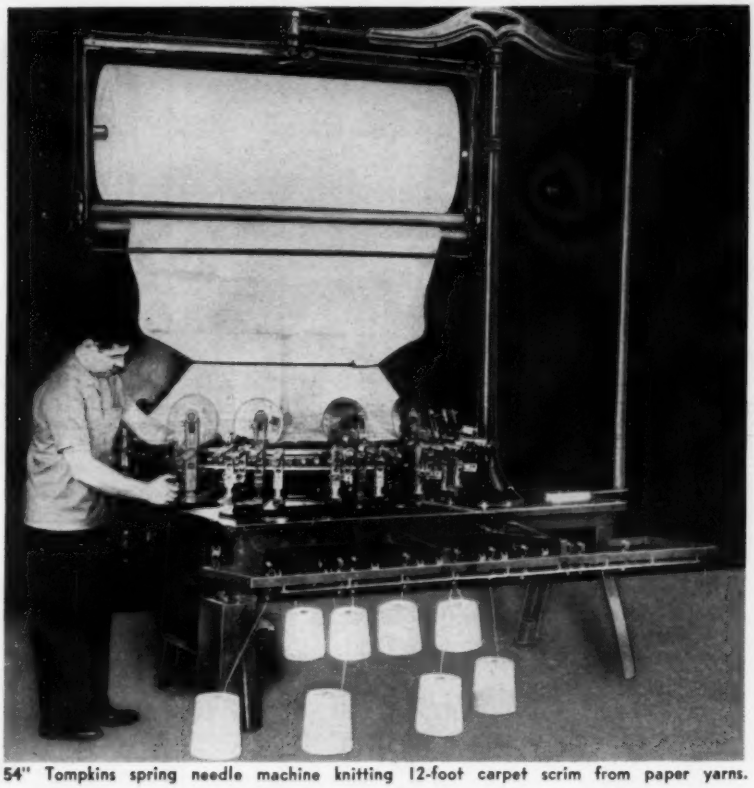
Non-stretch paper carpet scrim, carpet backing, and carpeting can be produced at higher speed and lower cost on two new Tompkins spring-needle circular knitting machines. 15-foot wide material is knit on a 70-inch cylinder diameter machine and 12-foot wide material is knit on a 54-inch cylinder diameter unit.

Loops are tightly tied down to the outside of the mesh or basic webb of the fabric, using a construction similar to heavy fabric knitting. The fabric moves upward uniformly without objectionable spiral or fabric distortion to an easy-to-doff take-up roll.

Both of the machines utilize standard Tompkins parts and the Tompkins knitting principle. Each individual end of yarn is controlled by two separate stop motions.

Tompkins Bros. Co., 623 Oneida St., Syracuse 4, N. Y.

Do you want more data? Write supplier or use postage-free card on page 175; list B-108



54" Tompkins spring needle machine knitting 12-foot carpet scrim from paper yarns.

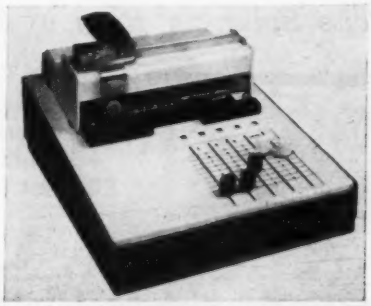
Machine "reads" data printed on tab card, punches it in

Automation of the preparation of source or input data for machine accounting systems is possible with the Addressograph Model 12-85 Data Recorder and the Addressograph Model 9500 Optical Code Reader. This equipment, which is compatible with any type of accounting system, saves time and assures accuracy of processing data for control of all textile mill production steps, in-process inventories, finished goods inventories, and shipping procedures.

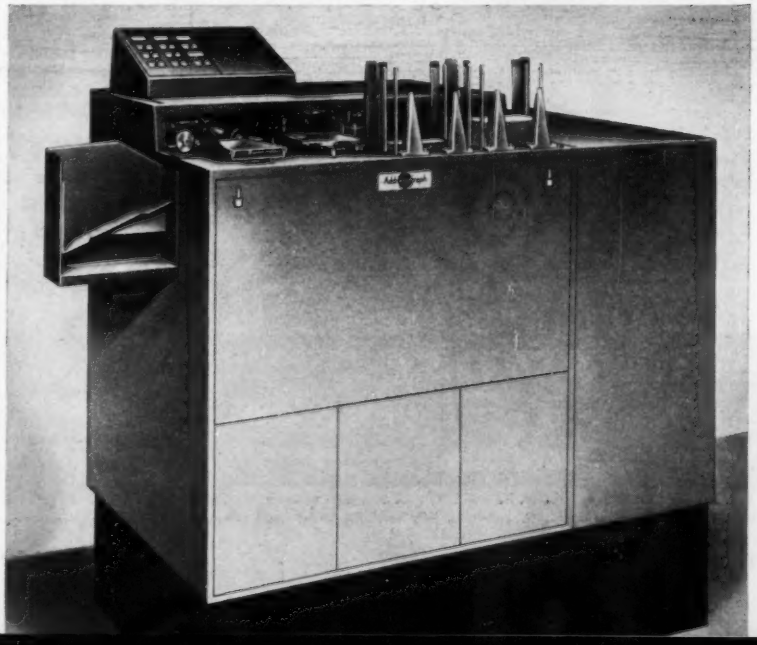
Tabulating cards imprinted at the production point on the simple Data Recorder are accumulated from various transaction sources and fed into the Optical Reader. The machine automatically "reads" the code at the rate of 180 cards a minute, punches the data into the same card read, and gang punches fixed data common to all cards in batch. Thus, manual keypunching of source card is eliminated as well as subsequent manual or machine processing operations since the Optical Reader simultaneously accumulates data punched.

Addressograph - Multigraph Corp., 1200 Babbitt Rd., Cleveland 17, Ohio.

Do you want more data? Write supplier or use postage-free card on page 175; list B-109



The Addressograph Model 12-85 Data Recorder is pictured at the right. Below is the Model 9500 Optical Code Reader.



How 2 frames in 5 months

"sold" 30,000* A-W Rings to a well known Alabama mill

Reordering 30,000 after 5 months' test on 2 frames, this mill summarizes . . .

- "best rings we've ever started"
- "some reduction in ends down"
- "traveler consumption shows savings"
- "yarn evenness checks up better"
- "a generally smoother running"

*ANTI-WEDGE

The Spinning Ring of the Future

For Best Performance with Elliptical Travelers

Anti-Wedge Trademark Registered

Much larger bearing area with controlled micro-inch finish.

The only ring design that truly eliminates wedging.

Request **ANTI-WEDGE** *Bulletin* →

WHITINSVILLE (MASS.) SPINNING RING CO.

DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
Rep. for Ala., Ga. & Tenn.: H. L. WILLIAMS, Box 222, West Point, Ga.

PCC

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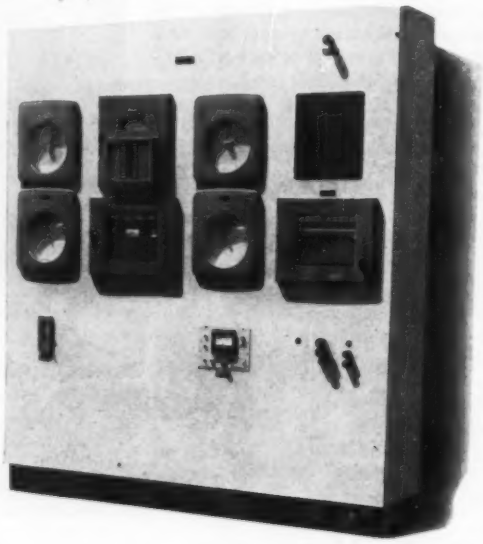
EFFICIENCY!
QUALITY!
PROFIT!



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Chemstrand Corp.
Amerotron
J. P. Stevens Co.
Kendall Mills
Owens-Corning Fiberglas Co.
Bewater Carolina Paper Co.
Beacon Blanket Co.

and many others

designers • engineers • manufacturers • consultants

Power Control Company

box 1211, greenville, s. c.

For further information use Handy Return Card, Page 175

Read warp end tension while loom runs

A warp tensiometer made by Hans Schmidt & Co., Esslingen, Germany, permits warp tensions to be checked while the ends are running. Called the KX type, the instrument is available in four ranges to cover tensions from 5 g to 1000 g. Tension is read directly from a dial.

Electromatic Equipment Co., 175 Remsen Ave., Brooklyn 12, N. Y.

Do you want more data? Write supplier or use postage-free card on page 175; list B-110

Nylon drafting system parts lower maintenance costs

Maintenance in the drafting zone of Shaw spinning frames and FS-2 and FS-3 roving frames may be greatly reduced by using the following replacement parts which are designed for easy installation on existing frames:

1. Snap-on nylon bearings for tension roll support arms;
2. Nylon cap bar nebs or blocks;
3. Saddles with nylon bearing block inserts.

Elimination of wear and the need for oil at these points is the result when these parts are utilized. Savings in labor and parts replacement costs soon amortize the expenditure for conversion.

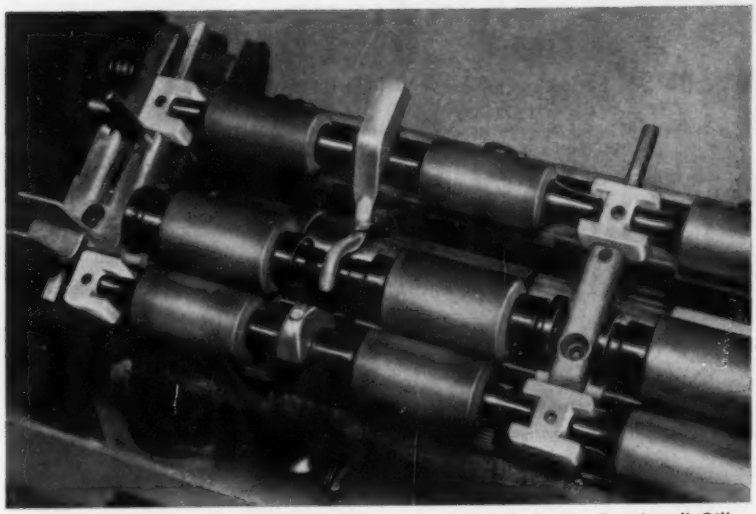
The nylon tension roll support arm bearings are quickly snapped into place over the area which is subject to wear on the inner bend of the arm. They aid in maintaining the alignment and smooth running of the apron.

With the nylon cap bar blocks, there is no oil film to attract lint. The parts last longer than conventional ones, and they cause less wear on top roll gudgeons.

For Shaw spinning back saddle bearing blocks made of nylon and nylon inserts for front saddles are available. For FS-2 and FS-3 roving frames, adjustable back saddles with nylon bearing blocks are provided. These parts hold the top rolls in position under pressure from the weighting without causing wear on roll arbors.

Saco-Lowell Replacement Parts Division, Saco-Lowell Shops, Greenville, S. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-111



Close-up of a spinning frame which has been modernized with the new Saco-Lowell Oilless Changeover. Note nylon cap bar nebs and saddles which are equipped with nylon bearing block inserts.

Laboratory wringer and padder

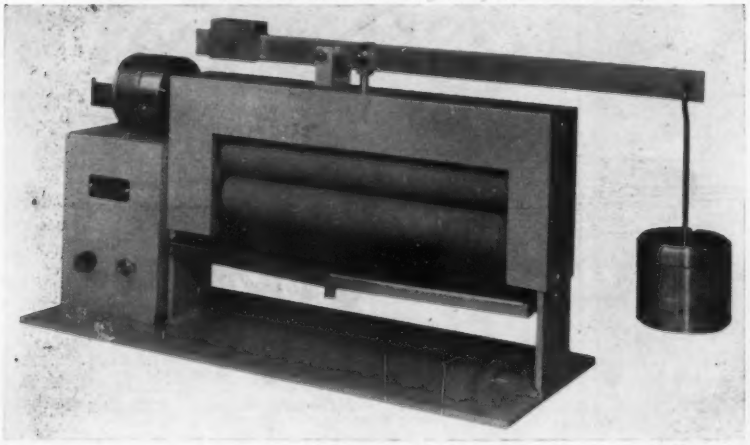
The Model LW-1 Wringer designed to meet the precise requirements of laboratory testing is equipped with 2⅛" diameter by 12" long neoprene rubber rolls having a durometer hardness of 75 ± 5. Specimens pass through the rolls at a rate of 1.0 ± 0.1 inches per second.

Accessory equipment is also available to permit its use as a small controlled laboratory padding unit.

Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago 13, Ill.

Do you want more data? Write supplier or use postage-free card on page 175; list B-112

Atlas Electric Devices Co.'s Model LW-1 Wringer may also be used as a padder.



Long-term lease plan for textile mill equipment

Textile manufacturers can now lease equipment for terms as long as six to 12 years. This eliminates the need for tapping long-term debt or equity funds for the smaller amounts involved in acquiring equipment.

Companies with a tangible net worth of $1 million are eligible for six-to-12-year leases for as little as $25,000 worth of equipment. There is no maximum.

National Leasing Co., 11 S. LaSalle St., Chicago 3, Ill.

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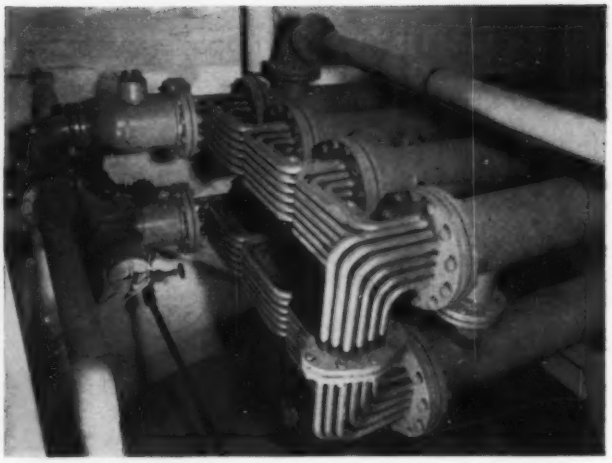
Ring-spins woolen yarns that are comparable to mule-spun

The Houget Type R.T.F.I. woolen ring spinning frame is equipped with special spindles to reduce spinning tension and provide the following advantages: (1) higher spindle speeds —5,050 rpm on 5½" ring; (2) fewer ends down; (3) 40 per cent larger package—on 5½" ring net bobbin

MAKE YOUR BOILER ONE THIRD LARGER WHILE FEEDING IT ONE THIRD LESS FUEL



Ludell-Bready Systems of Heat Recovery turn waste into profit by reducing steam demand and fuel consumption through reusing heat in waste water.

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Now the new, improved NEMO JET converts modified "pearl" starch to thin-boiling! Get more details on this major improvement by writing today.

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Doffing Device Attachment
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Main Street Jefferson, Mass. P.O. Box 28

For further information use Handy Return Card, Page 175

weight is 3 lb; (4) quality of yarn produced is comparable to that of mule-spun yarns. Available with rings up to 7" in diameter, the frame has these construction features: variable-speed motor drive, twist can be changed without changing gears; stops automatically for doffing and creeling.

Ernest L. Frankl Associates, 515 Madison Ave., New York 22, N. Y.

Do you want more data? Write supplier or use postage-free card on page 175; list B-114

Synthetics warp sizing scours easily

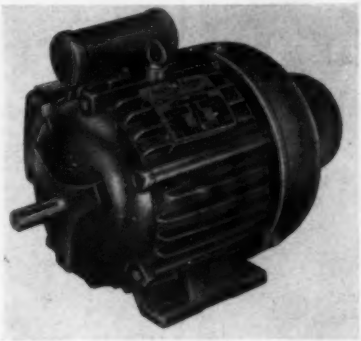
A warp size for synthetic filament yarns, called Synthosize, gives improved adhesion to cellulose acetate, triacetate, and polyester fibers at lowered cost. Based on a resin copolymer, it can be readily removed by usual scouring methods in a mildly alkaline solution. A typical size bath for acetate filament yarn would be 60 pounds of the product in 100 gallons total volume.

Morningstar-Paisley, Inc., 630 West 51st St., New York 19, N. Y.

Do you want more data? Write supplier or use postage-free card on page 175; list B-115

Equipment briefs

Motor with external centrifugal switch

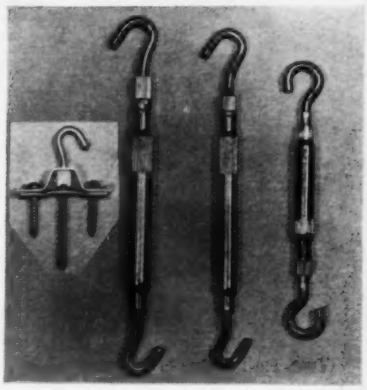


A significant feature of a recently introduced single-phase motor is the external centrifugal switch which facilitates switch repairs. Available in capacities from 1 to 5 hp, the motor is totally enclosed and fan cooled. Internal fans (cast integrally with the rotor) recirculate internal air to prevent hot spots. A large external fan (protected by a hood) blasts air over the heat-dissipating fins of the frame. Dust or moisture cannot enter motor. Condensate inside can be bled off by means of two plugged openings.

Brook Motor Corp., 3302 W. Peterson Ave., Chicago 45, Ill.

Do you want more data? Write supplier or use postage-free card on page 175; list B-116

New loom harness accessories



An adjustable harness frame hook for use with shorter connectors prevents stripping out of hooks in harness frames. A spring clip attachment maintains constant eye rigidity. Adaptable to wooden and aluminum frames, the hooks have an adjust-

For IMPROVED and SPEEDED processing ... with REDUCED WASTE

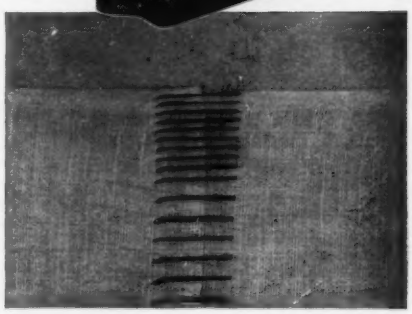
MERROW NOW OFFERS ... *IN A SINGLE MACHINE*

- ***WIDER STITCHING***

plus

- ***MULTIPLE STITCHING AT SELVAGES***

Style 60 Y3B
Butted Seamer



Some processors require a wide butted seam to eliminate "combing out" of coarse material under tension. Others, handling high count materials, need multiple stitching at the selvages for extra strength. Merrow now makes available a machine that fills **both** requirements.

The strong one thread seam (approximately 5/8" wide) is quickly and accurately formed by the high speed machine ... can be easily removed after processing. Result: improved processing ... higher production ... reduced waste.

Request complete information on this or other machines in the Merrow **complete line** of butted seamers.

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2805 LAUREL ST. • HARTFORD, CONN. • U.S.A.

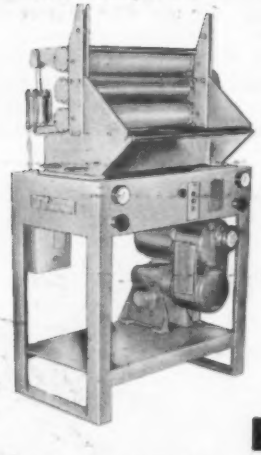
ADVANCED TEXTILE MACHINERY

SINCE 1883 BIRCH

BB983

MINICALENDER

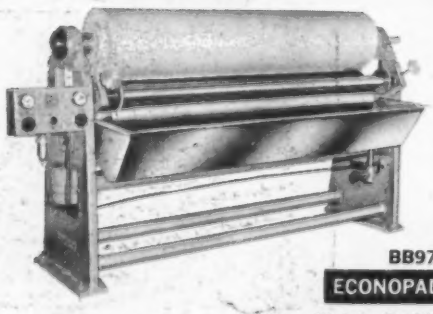
Two Roll "Quick Change" Laboratory Calender



BB982

MINIPAD

Deluxe Three Roll Laboratory Padder



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ECONOPAD

5 Ton Finish Padder

BIRCH BROTHERS, INC.

Somerville 43, Mass., U.S.A.

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Spinning and Weaving
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Essential personal qualities: youth, drive, forcefulness, organizational and analytical abilities.

These positions — now and in the future — offer a chance to use your full ability, to see your own personal contributions, and to grow accordingly in position and earnings.

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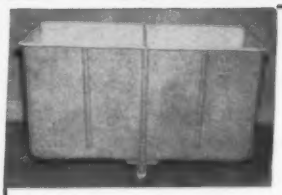

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Trucks, tanks, vats, dye buckets, batch containers.

Special containers include dye box on casters, spinning doff boxes, conditioning boxes, dye buckets and batch containers in 15, 20, 25, 30, 40, 50 and 55 gallon sizes. Prices, literature upon request.

CAROLINA FIBERGLASS PRODUCTS CO.
510 E. JONES ST. WILSON, N. C.

For further information use Handy Return Card, Page 175

ment tolerance of 1¼". A hardened drill jig to insure correct application of the hooks to existing looms is available.

A turnbuckle type harness adjuster, known as the "Shur-Tuff," is rustproof, makes possible quick adjustment and accurate settings, and prevents slipping. Three sizes are marketed: standard with 1" or 2" adjustment and heavy-duty with 2" adjustment only.

Louis P. Batson Co., P. O. Box 772, Greenville, S. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-117

Take-up roll covering for slick fabrics

Weaving of slippery fabrics (made from continuous filament yarns and glass) is simplified by using "Beta Grip" Roll Covering on loom take-up rolls. Applied with contact adhesives, this material holds cloth longitudinally and widthwise. Service life is equivalent to that of conventional roll coverings. 2" and 3" widths are available in rolls 108' and 216' long.

Schachner Leather & Belting Co., 2601 West Blvd., Charlotte 3, N. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-118

Winds filling on double change looms

A new application for the Unifil loom winder is double change or semi-feeler looms. Double change attachment diverts partial bobbins to chute from which they can be returned to full bobbin magazine.

Leesona Corp., P. O. Box 1605, Providence 1, R. I.

Do you want more data? Write supplier or use postage-free card on page 175; list B-119

Revolving joint has self-adjusting seal

The heavy monel metal bellows seal in a new revolving joint for use with dry cans, slasher cylinders, etc., is designed so that pressure is automatically increased or decreased in proportion to that of the steam, water, air, etc., flowing through the union; thus full protection against leakage is provided by the low-friction, mechanical seal whether the unit is idle or in motion. Another advantage of this new ball-bearing union, which is marketed under the tradename "Rotary Union," is the fact that it can be repaired in the mill with repair cartridges which can be installed in a few minutes with ordinary tools.

Perfecting Service Co., 332 Atando Ave., Charlotte, N. C.

Do you want more data? Write supplier or use postage-free card on page 175; list B-120

Hand trucks for boxes, drums, reels

A new line of two-wheel hand trucks includes: conventional models in capacities of 400 to 1,000 lb for all types of box, carton, and package handling; "Drum 'N Barrel" trucks for drums that weigh as much as 1200 lb; "Wheel 'N Reel" trucks for handling any lineal material on a reel (it not only moves reel but provides stand from which to reel or unreel material). Frames are of tubular welded steel design to provide strength and keep weight to minimum. Solid or pneumatic tires are available on wheels equipped with oil-impregnated bronze, ball, or roller bearings.

Harper Trucks, Inc., P. O. Box 33, Wichita 1, Kansas

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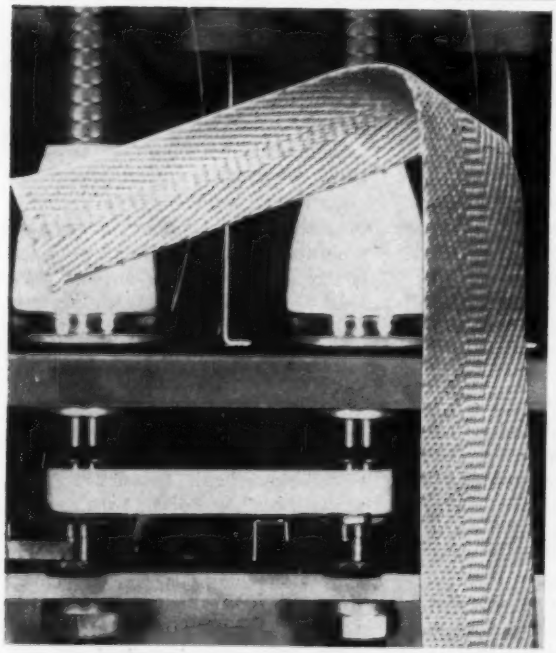

NYCO ELIMINATES TAPE PROBLEMS

NYCO tape for spinning and twisting is a perfect combination of blended nylon and pima cotton — produced by a carefully controlled, pre-stretched, heatset, and treated process. This results in a spinning tape that assures uniformity of spindle speed, longer-life, and an overall savings.

NYCO is definitely a big **IMPROVEMENT** over the all-nylon tape.

NYCO can either be sewn or bonded.

NYCO will pick up less lint than other types of tape.

NYCO prices are lower than all-nylon tape.

NYCO is manufactured by Lambeth Rope Corp. of Kings Mountain, N. C. — the oldest and largest manufacturers of spinning tapes in America.

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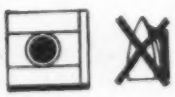
Research achievements *(from page 82)*

veloped by the same company.

Printing. Details were finally revealed of the revolutionary English carpet printing process featuring speeds of up to 15 ypm with cost of application to rayon pile constructions estimated to be close to that of piece dyeing. Among a series of papers on new developments in textile printing presented at a meeting in Manchester early last year was one describing an Italian technique which utilized paper-printing machinery, transferring the design from the paper to the cloth by passing both the paper and fabric through a heated calender.

A viewer for affording the printer an opportunity to see what is apparently a stationary picture of material running at speeds of up to 1,000 fpm by a synchronizing motor attached to the print machine was described in an English publication last fall. "Drimarine Z" reactive dyestuffs, developed especially for printing cotton and rayon fabrics, were introduced by Sandoz, Inc., with claims made for excellent paste stability, ready removal of unfixed dyestuff, and little take-up of loose color from washing baths. A German multicolor print machine which uses solid-state dyestuffs with application made to wet cloth by a single printing roller carrying a built-up design in an unlimited number of colors was to be distributed in this country by a Philadelphia machine company.

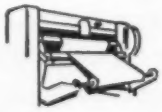


Wash-and-Wear. There was little evidence of any reduction in interest in wash-wear finishes during 1960, and the annual National Cotton council Chemical Finishing Conference last September featured discussions of new chemicals and methods for imparting ease of care properties to cotton fabrics. Earlier in the year the use of hydrogen peroxide was suggested as a means for the elimination of the objectionable amine odor frequently encountered when certain wash-wear finishes were employed.

What was described as a practical method for obtaining good wet wrinkle recovery in cotton fabric cross-linked with formaldehyde without excessive degradation of fabric strength was carried out in a pilot plant operation at the Southern Regional Research Laboratory.

A new wash-wear resin for cotton, rayon, and other fabrics, having as a chemical basis urea formaldehyde and ethyl alcohol, introduced by a New York chemical company, was said to eliminate yellowing, odor build-up, and strength loss. At about the same time, the Joseph Bancroft & Sons Co. announced a new nonresinous finishing process for rayon fabrics, claiming a wash-wear rating of 4 to 5 by AATCC standard tests.

Another nonresin wash-wear finish with good durability to laundering and excellent dimensional stability was described as using latex and cellulose reactants. A cellulose-ether derivative was formed by the reaction which took place on padding and drying, followed by a second padding and curing at 145 C. In October, Courtaulds (Ala.) announced the development of their "Prestwick" permanent, nonresin wash-wear finish for rayon fabrics with the first licensee reported to have successfully processed over one million yards of spun rayon fabrics prior to the public announcement.



Proofing. An abundance of new and improved products and processes designed to protect fabrics against about everything except falling prices was reported during the past 12 months. A method of rendering wool unshrinkable and nonfelting by use of an acid bromide solution was patented by an Israeli inventor and later in the year it was reported that an American chemical company had acquired domestic rights for the process. The shrink-proofing of wool with neutral potassium permanganate or potassium bromite was described in the May *Textile Research Journal*. Both were low-cost operations which could be carried out in conventional mill equipment.

In December, a group of English companies in Leeds reported the development of a new wool cloth shrinking and finishing process, identified as "91," to retain the fabric's properties through making up of the garment. It was claimed that the process emanated from research into the atomic and molecular structure of wool conducted by Professor Speakman of Leeds University. The method incorporated manipulation of heat, pressure, and moisture with certain chemicals to give the fabric the desired luster and handle.

The stainproofing of silk fabrics was reported to have been carried out by a Japanese finishing plant through use of a silicone paste in polyvinyl alcohol and a zirconium derivative waterproofing compound applied in an aqueous bath, drying and baking for about 5 minutes at 120 C. The General Electric Co. patented a waterproofing composition of a pressurized mixture of an organopolysiloxane, a titanate, and a wax for home application to textile materials.

A new coating for fabrics of all types to provide either water repellency or water proofing, depending on the base fabric and weight of coating applied, was recently announced by a New England rubber company. Among features claimed were transparency and resistance to wear, aging, color changes, and stiffening. The I.C.I. Dyestuffs Division reported that suitable selection of durable water repelient and "Scotchgard" oil repellent finish made possible good, durable finishes on cotton or cotton-polyester blend fabrics at a lower cost than the Quartermaster Corps "Quarpel" type finish first announced in 1959.

The Ciba Co. described an antisoiling treatment for rayon tufted carpeting, stressing ease of application, effectiveness on both white and colored materials, no effect on the lightfastness of dyeings, no change in shade, no dusting

tendency, and resistance to cleaning with detergents; while a Rhode Island chemical company offered an anionic compound claiming similar results along with the addition of good antistatic properties. Elimination of curing, afterwashing on medium to dark shades, and use of lower temperatures were claimed for an improved durable antistatic finish for synthetics and blends which was cross-linked with an epoxide.

The successful flameproofing of acetate and nylon as well as fabrics of mixed fibers was reported to have been achieved by a fire-retardant introduced by a California company, although retreatment was required after laundering. A New York manufacturer of plush and pile fabrics announced a method for the impregnation of textile materials with aluminum, primarily to impart heat and fire resistance for safety apparel and draperies. Southern Regional Research Laboratory chemists reported that compounds other than THPC can be used with APO as a durable flame retardant, offering advantages of reduced cost, freedom from release of formaldehyde fumes in the pad bath, drying, or curing oven, and greater bath stability.

A series of nonleaching mercury compounds was introduced late in the year as bacteriostats, fungicides, and mildew preventives, applicable to fabrics of natural and man-made fibers and compatible with most other finishing compounds. "Extremely versatile" would appear to be a mild understatement in describing a new "nontoxic hydrocarbon of vegetable origin" reported by a New Jersey scientist. In addition to claims made for improving the hand on woolens, this product was also credited with the ability to impart wear-resistant qualities to nylon, prevent discoloration, and afford more rapid drying.

Other Finishes. A patent disclosing a finishing process for polyester fabrics to reduce pilling was issued to the Du Pont Co. last January. The technique described involved impregnation with a polyether glycol or its ester, followed by heating to below the fusion temperature of the surface fibers. An English company received a patent on a method for forming sunray pleats in a cellulosic textile material by impregnation with a thermosetting resin and pressing between heated rollers to set the resin; while a Swiss dyer and finisher invented a method for imparting a silky, soft hand to fabrics of polyester fibers by treatment in a bath containing alkali metal hydroxide, together with 10-30% of an organic swelling agent or solvent.

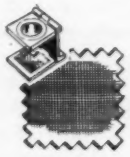
Unattractive twisted seams would be a thing of the past in women's full-fashioned hosiery, according to a British inventor whose patent covered the treatment of nylon hosiery with a chemical which increased adhesion of the stocking to the leg; and another chemical treatment to make woven diapers resistant to corrugation was the subject of a U.S. patent assigned to a prominent manufacturer of this important item of infants' wearing apparel.

Livelier, fuller-bodied jersey fabrics and reduced matting and shedding in woven blankets of Orlon acrylic fibers were claimed for the new Du Pont "Fiber Sealed" process announced last August. U.S.D.A. scientists at the Albany Wool and Mohair Laboratory developed the use of dilute solutions of ethanolamine with a small amount of detergent for setting permanent creases in wool suitings. A less conventional method patented by the British Nylon Spinners relied on the insertion of a low melting nylon monofilament in the small angle of a crease first formed in garments, then subjecting the combination to heat and pressure to unite the core and fabric.

A British patent issued about a year ago described means for improving the characteristics of blended yarn fabrics by treatment with an agent to cause shrinkage of one component fiber to permit the other to come to the surface; and an English dyer patented the technique of applying a swelling agent for acetate to blend fabrics containing triacetate, then washing it out and embossing a pattern on the cloth before dyeing. A somewhat different technique for obtaining patterned tone-on-tone effects on cellulose triacetate fabrics was described by an American inventor. The fabric is first dyed with a disperse dye, after which the embossed effect is removed to produce a flat fabric with a tone-on-tone pattern.

Further information on any of the research achievements described by Mr. Goldberg in this article can be obtained by writing The Editors, Textile Industries, 806 *Peachtree St., N.E., Atlanta 8, Georgia.*

Fabrics



Those engaged in chronicling developments in fabrics each year are likely to feel that there comes a time when man's ingenuity is exhausted, but every annual review of the record uncovers a sufficient number of new achievements to assure us that the end is not yet in sight. A reduction in the number of changes of a different nature was promised by a Canadian inventor who introduced "easycare" at the infant level. His design of a diaper lining of knitted Arnel triacetate fiber was claimed to contribute greater warmth and comfort to the wearer while cutting down the frequency of "pin-ups." A new type of Velcro all-nylon tape fastener consists of a single strip of tape faced on one side with the characteristic "hooks" and on the other with the usual "loops." This "back-to-back" tape can be fastened together on itself and offers many new applications.

Although the use of rayon in polyester blends is not new, at the October meeting of the A.A.T.T. a representative of the American Viscose Corp. disclosed results of an extensive program devoted to the evaluation of blends of polyesters with the newer high-modulus rayons. A hot wet calen-

dering finish was found to be most effective in contributing a number of advantages over conventional cotton blends, achieving dimensional stability to repeated laundering without the use of chemical agents. Rayon also found its way into luxurious terry towels made of blends with cotton, while an ingenious use for high-tenacity rayon cord was conceived by the American Viscose Corp. in the development of "Avistrap," a strapping material which featured economy, ease of handling, and safety in competing with conventional metal straps.

The English Courtaulds Ltd., after extensive research in cooperation with a dyer, introduced a range of washable rayon linings, of particular interest for use in wash-wear garments. Although the grass may be greener on the other side of the Pacific, flat filament rayon yarns were introduced as a substitute for the natural blades in skirts for beach wear in England. Still another new use for rayon was suggested in the showing by a Japanese fiber producer of a wallpaper material made of a spun rayon warp and flat filament rayon filling combined with paper.

A revival of a concept advanced a number of years ago in this country was seen in a U.S. patent obtained by a British manufacturer for a papermaker's felt made partly of Dacron and partly of nylon. The electronegative Dacron and the electropositive nylon were claimed to render the felt neutral electrostatically. It will be recalled that a somewhat similar attempt to overcome objectionable static electricity charges in apparel fabrics by combining nylon with Orlon acrylic yarns was unsuccessful in this country.

Good durability, rapid recovery from pressure marks, easy cleaning, and a selling price only slightly above that of cotton tufted carpeting were claimed for a flock carpeting with 100% nylon pile introduced by a German manufacturer. For those who would extend a warm welcome under foot, an electrically heated Wilton carpet, mothproofed and cleanable in a normal manner, was exhibited in England. Also shown in England was an all-nylon fabric in white and color, obtained through use of undyed immunized nylon in combination with regular dyeable nylon.

Awarded to an Austrian inventor was a British patent covering a method for producing an imitation eyelet embroidery fabric. This was accomplished by selective removal of parts of the base material after carbonizing caustic-printed areas outside of portions protected by a thermoplastic resin.

Blends of triacetate and polyester fibers were utilized for calender and press cloths with advantages of lower price, resistance to moist and dry heat and excellent wearing qualities, at the same time providing an affinity for starch and good strength retention after prolonged exposure to the high temperatures which degrade all-cotton fabrics. The popularity of polyurethane foam in laminated apparel fabrics took on a new look when a New England manufacturer introduced about a dozen colors of this popular insulating material for matching the fabrics with which it was united.

Heralded in Great Britain as a possible forerunner of revolutionary changes in the flat knitting industry was the announcement of the invention of a single electronic mechanism by which one operator of eight knitting machines could produce 1500 garments a month on one shift.

Nonwovens and Coated Fabrics. Evidence of a steady but conservative growth pattern in the use of nonwoven materials was noted in the published reports of a series of new products and methods offered during the past 12 months. So-called "paper cloth" made from synthetic fibers in West Germany was offered for use in men's shirts and women's blouses, colored, printed, dirt and moisture resistant. Disposables, Inc., was the highly descriptive name of a company which announced without disclosure of details a new process for turning out industrial and household garments of nylon-reinforced bonded materials, eliminating the use of conventional sewing and cutting techniques.

Further advances in the field of nonwovens included the marketing of a multidirectional high-loft nylon batt for interlining, an Acrilan resin-bonded interlining said to be completely washable and drycleanable, and a lightweight fusible material with tiny fusing granules on one side which melt on hot ironing to form a bond with a nonwoven outer fabric. A warp knitting machine designed in Czechoslovakia was described as providing a novel method for the production of nonwoven textiles by combining a web of carded fibers with the warp knitted fabric in a range of weights suitable for apparel and insulation uses.

The Du Pont Co. suggested the generic name of "fibrids" for synthetic fiber particles developed expressly for producing low-cost nonwovens on conventional papermaking equipment. It was also proposed that these structures, which could be made in various weights and textures for dyeing, printing, or embossing, be identified by the term "textryl."

Protective garments must also breathe to survive and a New York company announced a new process which uses electric charges to perforate thermoplastic synthetic cloths as well as coated fabrics and plastic films to make them breatheable. A breatheable 4-ounce tent fabric of Type 330 nylon, employing a new technique of weaving and finishing, was exhibited at a convention of the Canvas Products Association International in New Orleans, as was a coated synthetic fabric featuring a micro-vent process said to eliminate condensation because of the microscopic perforations.

The Canadian Dept. of National Defense reported that a vinyl impregnated construction of a plied yarn of filament nylon and carded cotton made a superior tentage fabric. A British patent was assigned to the Du Pont Company on a vapor-permeable suede-like sheet of nonwoven material made with a surface layer of short synthetic fibers bonded to a base of longer fibers, processed in a manner so as to provide air chamber channels, and an abraded surface of a leather-like texture. Shortly thereafter an English producer of nonwovens reported the development of a synthetic leather, with full-scale commercial output scheduled to commence late in 1960.

Testing Instruments and Methods

Relatively few new testing instruments of U.S. origin were placed on the market last year. A yarn balance for determining denier, cotton yarn number or tex units was made available by a New Jersey company and as an aid to the investigation of fiber behavior in modern high-speed textile machinery. The Fabric Research Laboratories, Inc., described the use of a ballistic testing unit which produces loading rates of up to 2,000 ft per second. Continuous measurement of cotton fiber moisture content on the cotton seed through the ginning process was made possible with a new electronic instrument invented by a physicist at the Southeastern Cotton Ginning Research Laboratory. Boasting an accuracy of 0.5% relative humidity and readability within ¼ degree, details of a pistol-like portable battery-operated psychrometer were published in February.

Scott Testers, Inc., demonstrated two new electronic textile testers at the Atlantic City machinery exhibit. The constant-rate-of-extension tester featured inertialess weighing and the Scotmatic incline-plane machine provided for continuous, unattended yarn testing and recording. A new automatic color measuring device, developed under a QM Research and Engineering Command contract, was designed to correlate with visual judgment and to provide data in exact figures which could be recorded and duplicated for subsequent study.

A Pennsylvania manufacturer made available a fiber flex tester developed by Dow Chemical Co. scientists. Up to 10 fibers can be tested at one time as they are flexed over the corner of a thin carbide bar at the rate of 100 flexing cycles per minute. The new AATCC perspiration tester was described as being inexpensive and compact, with a testing capacity of up to 20 samples at one time. Means for eliminating the danger of fishy odors developing in resin-treated fabrics at a cost of from .01 to .05¢ per yard was described at the annual AATCC convention in Philadelphia.

An improved stroboscope featured a much shorter and brighter flash for observing high-speed details of motion in brightly lighted rooms as well as being easier to handle. A short time ago the Better Fabrics Testing Bureau marketed a new stamping instrument with 10″ and 18″ gauge lengths for use in measuring dimensional changes in fabrics. To check the knotting qualities of a yarn and determine knot holding ability or impact resistance of the combination, a unique method which utilizes a standard tensile strength tester was presented in a domestic publication last May.

An unusual device for measuring fiber hardness, also enabling one to gauge a fiber's susceptibility to changes in temperature upon the application of heat, was reported from Japan. A Belgian firm offered a laboratory dyeing unit with six becks of from 250 cc to 500 cc capacity, heated by gas, steam or electricity; and from Hungary came details of a fiber flexing apparatus with a wide range of applied stresses and provisions for testing 10 fibers simultaneously.

New carpet testing instruments seen at the London International Carpet Fair included an appearance retention tester in which a tetrapod walker tumbles over the face of the carpet which forms the lining of a rotating drum and a pile abrasion tester. Also of English design was an apparatus of the British Rayon Research Association for determining the wet crease recovery of cloth. The same organization introduced the "Raisemeter" for measuring the degree of "raise" in napped fabrics by determining the resistance of the raised fibers to a controlled flow of air passing through them.

Another British research group, the Wool Industries Research Association, built a fiber diagram machine to measure fiber lengths of tops with satisfactory results reported on wool, Orlon, and Acrilan. A new laboratory machine allowed for the drying of 16″ x 20″ samples in a manner which duplicated commercial production, and the Fibers Division of the Imperial Chemical Industries designed a laboratory high-temperature beam dyeing machine. Projecting magnified shadow images on a screen, an English profile projector was introduced as an inspection device suitable for detailed examination of selvage constructions and weaves.

In conclusion, it is evident that all segments of the industry have again demonstrated their active interest in research by developing in 1960 a creditable array of new and improved products, machines, and processes to turn out better textiles and effect substantial economies in production.

Addenda

Man-Made Fibers. Although no formal news release was issued, several new zero-twist continuous filament yarns were introduced last year. These included Du Pont's "Rotoset" yarns of Dacron and nylon and "Cycloset" acetate. They were described as having random interlaced filaments to provide mechanical binding without twist and improved processability. Chemstrand Corp. offered a similar nylon yarn which they referred to as "tangled" yarn.

In December, Du Pont announced three new Orlon acrylics, a Type 24 "Sayelle," a Type 44 tow for cross-dyeing effects when used in combination with regular Type 42 staple, and a Type 38 with 40% shrinkage for use in pile fabrics. Details were also disclosed of a heat treatment for Orlon acrylic fiber to yield a black fireproof material identified as "Fiber AF."

Two new nylon yarns introduced by Chemstrand included one with a new "R-factor" to provide improved light-resistance, and a Type FRN tire yarn with fatigue resistance increased by over 100%. An all-organic fiber, "Pluton," capable of withstanding temperatures of up to 18,000 F was developed by the Minnesota Mining & Mfg. Co. and was being evaluated for use in missile nose cones and for rocket engine parts. END

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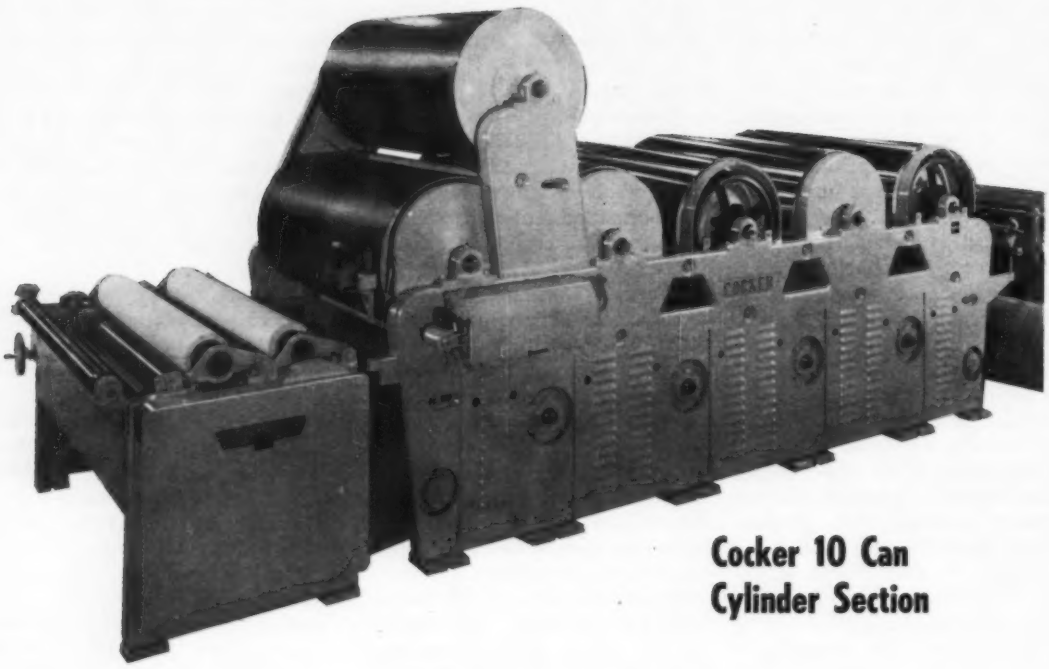

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2-2 COMPRESSION STRAPPING MACHINE—Specifications of 14 models of CSF compression strapping machine are detailed in new folder. Signode Steel Strapping Company, 2600 North Western Avenue, Chicago 47, Illinois.

2-3 CUSTOM STAINLESS WORK—Brochure gives complete details on custom tailoring of stainless steel, listing some outstanding satisfied customers. Sims Metal Works, West Point, Georgia.

2-4 POLYETHYLENE EMULSIFICATION TECHNIQUE—Booklet describes a pressure technique for the rapid emulsification of Epolene types E, LVE and HDE. Eastman Chemical Products, Inc., Kingsport, Tennessee.

2-5 PUMPS, COOLERS, HOMOGENIZERS—Booklet decribes equipment available for the textile industry, including slasher pumps, starch coolers, starch homogenizers, etc. Creamery Package Mfg. Co., 1243 West Washington Boulevard, Chicago, Illinois.

2-6 OXIDIZING AGENTS—Literature review booklet deals with hydrogen peroxide and organic peracids as oxidizing agents. Solvay Process Division, Allied Chemical Corporation, 61 Broadway, New York 6, New York.

2-7 LABORATORY TESTERS—Booklet describes various testers or equipment manufactured as standard products for research control and production. Custom Scientific Instruments, Inc., Kearny, N. J.

2-8 VARIABLE SPEED DRIVES—Folder describes new constant horsepower variable speed drives, designed for up to 50 horsepower and ratios up to 5.5:1. Public Relations Department, Link-Belt Co., Prudential Plaza, Chicago 1, Illinois.

2-9 JET COOKER—Booklet tells how Nemo jet cooker converts pearl starch to thin boiling, as an additional feature. Nemo Industries, Inc., 3081 Maple Drive, N.E., Atlanta 5, Georgia.

2-10 ZANTREL—Brochure gives complete technical information on Zantrel Polynosic rayon fiber. Hartford Fibres Company, 140 Madison Avenue, New York 16, New York.

2-11 GEARMOTORS, SPEED REDUCERS—Bulletin describes full line of gearmotors and "Line-O-Drive" coupled speed reducers. Howell Electric Motors Co., Howell, Michigan.

2-12 REMOVE, PREVENT RUST—Bulletin describes tested and proved procedures for removing and preventing rust under almost any conditions. Bulletin 16B, Oakite Products, Inc., 126C Rector St., New York 6, New York.

2-13 MULTIPLE WASHING MACHINE—Bulletin describes the "Terg-O-Tometer," a laboratory-scaled multiple washing machine which simulates the agitator-type home washer. United States Testing Company, Inc., 1415 Park Avenue, Hoboken, New Jersey.

2-14 INDUSTRIAL TRUCK LEASING—Booklet outlines choice of industrial truck rent-lease-purchase arrangements tailored to your exact requirements. Hyster Company, Leasing Division, P. O. Box 4318, Portland 8, Oregon.

2-15 EMERGENCY GENERATOR—Booklet describes complete range of generator types and sizes, including gasoline, LP and dry gas fuel units. Fairbanks, Morse & Company, Electrical Division, 303 North Henderson, Freeport, Illinois.

2-16 YARN INSPECTOR—Booklet gives full details on transistorized yarn inspector which provides automatic control of yarn quality with reduction of warping costs. Lindly & Company, Inc., Mineola, New York.

2-17 TENSIOMETERS—Booklet describes tensiometers for measuring tensions of many materials in various forms, including filaments, tapes and bands to 2500 Kg. Electromatic Equipment Company, 177 Remsen Avenue, Brooklyn 12, New York.

2-18 POLYPROPYLENE FILM—Brochure gives characteristics and applications of Olefane, a polypropylene packaging film. Film Division, AviSun Corporation, 1345 Chestnut Street, Philadelphia 7, Pennsylvania.

2-19 REGOHM TRANSDUCER—Booklet describes "Mechanical-To-Electrical Transducer" for control of position, tension, speed, weight and other quantities. Electric Regulator Corporation, Pearl Street, Norwalk, Connecticut.

2-20 TRUCK CATALOGUE—Pictures, descriptions, and full specifications are provided for entire line of two-wheel and platform trucks. Fairbanks Company, 393 Lafayette Street, New York 3, N. Y.

2-21 PADDLE WHEEL DYEING MACHINES—Booklet gives specifications, design characteristics, capacity of paddle wheel dyeing machines. Klauder-Weldon-Giles Machine Company, Adams Avenue & Leiper Street, Philadelphia 24, Pennsylvania.

2-22 VALVE BULLETIN—Complete description and illustrations of line of corrosion-resistant valves. Alloy Steel Products Co., Linden, New Jersey.

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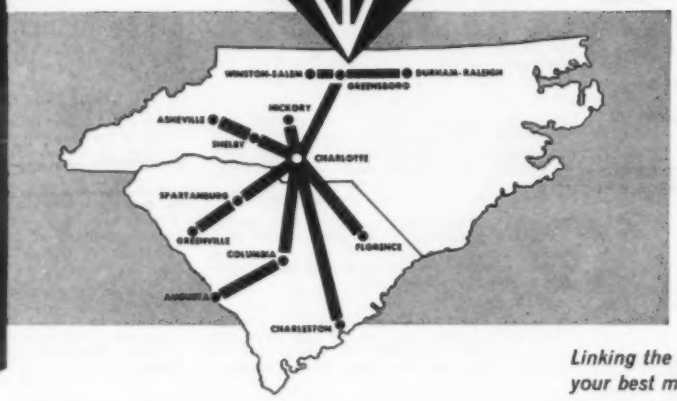

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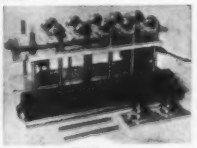
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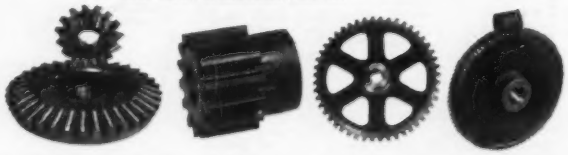

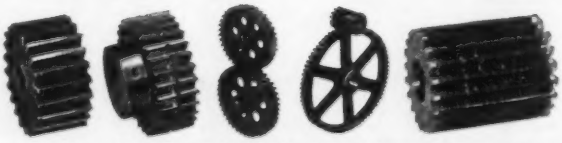

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T-314 LOOM REED BOOKLET. Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 COCKER EQUIPMENT. Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-318 FORMULAS FOR SLASHING ARNEL. Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 ECLIPSE STARCHES FOR TEXTILES. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-321 COCKER SLASHERS. Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

T-322 MOUNTS FOR LOOMS. Vinyl mount eliminates need for bolts or paste. Clark, Cutler, McDermott Co., 106 W. Central St., Franklin, Mass.

T-323 UNIFIL LOOM WINDER. Describes new concept of filling preparation which needs no quilling area. Leesona Corp., P. O. Box 1605, Providence, R. I.

T-324 ALIGNING LAYS. Setting instructions for step-by-step aligning. Draper Corporation, Hopedale, Mass.

T-325 TRAVELING LOOM CLEANER. Advantages of the new Oscillaire loom cleaner. Parks-Cramer Co., Fitchburg, Mass.

T-326 DRAPER REPAIR PARTS CATALOG. Contains Illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

T-328 TEXTILE MACHINERY PARTS CATALOG. Describes complete line of Dayco and Thorobred textile parts. Dayco Corp., Dayton, Ohio.

T-329 COUNTING DEVICES. Describes complete line of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

T-331 STATIC BARS. Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

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T-347 **New DRYING SYSTEM.** Describes high capacity, custom engineered drying equipment for tufted plants. Dalton Sheet Metal Co., Inc., Dalton, Ga.

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T-355 **NON-WOVEN FABRICS.** Booklet gives outline of nature and history of non-woven and the manufacturing techniques of today. Booklet 56-319A. Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-358 **LOOM SUPPLIES.** Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

T-362 **SIZE THAT SATISFIES.** Information on getting the correct size package for your mill. Also on Bingham line of slasher rolls. Stodghill & Co., 716 Ponce de Leon Place, Atlanta, Georgia.

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T-401 **SINGLEHEAD FULL - FASHIONED MACHINE.** Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-403 **RASCHEL KNITTER.** Describes new Raschel-type knitting machine. Kidde Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 **NEEDLE OIL DOES NOT STAIN.** Details on "Gulftex 39" developed for knitting mills. Gulf Oil Corp., Gross & PRR, Pittsburg 30, Pa.

T-407 **KNITTING MACHINES.** Information on Wildman "TFS" 30" single section F-F machines and "AL" 30" diameter 32-feed "single purpose" circular interlock machine (rib type) Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

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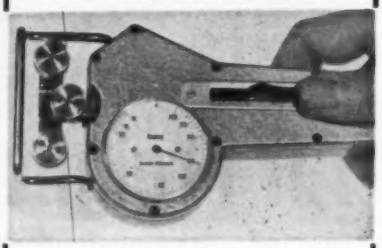

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T-410 **"READING" TYPE 60 F-F KNITTING MACHINE.** Information about the new "Reading" Type 60, 28-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

wet processing

T-500 **WEBB GUIDE SYSTEMS.** Folio No. EG-84 describes webb guide systems for cloth applications. G.P.E. CONTROLS, INC., 240 E. Ontario St., Chicago 11, Ill.

T-501 **TUBES FOR PACKAGE DYEING.** Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 **FINISHING MACHINERY.** Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providenee, R. I.

T-503 **WATER ANALYSIS.** Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 **UREA FORMALDEHYDE.** Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1. Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-506 **CATIONIC SURFACE ACTIVE AGENT.** Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-508 **PEROXIDE BLEACHING SYSTEM.** Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept., Wilmington, Del.

T-510 **TEXTILE CHEMICALS.** Describes leading products for wet processors. Royce Chemical Co., Carlton Hill, N. J.

T-512 **DEPUMA.** Decribes odorless, viscous, non-evaporating emusion for anti-foam. Koppers Co., Inc., Chemicals & Dyestuffs Div., Porter Bldg., Pittsburgh 19, Pa.

T-513 **CATALYST AC-6.** Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

T-514 **SODA ASH BULLETIN.** Contains useful data covering this subject. Solvay Sales Division Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-516 **ALUMINUM CHELATE PEA-1.** Technical data sheet tells how aluminum Chelate PEA-1 may be used with advantage in many applications where aluminum in propiate is unsatisfactory. Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-517 **CHEMICAL CATALOG.** Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-519 **HYDRAULIC POWER UNITS.** Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 **CUT WATER TREATMENT COSTS.** Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

T-526 **PRODUCTS FOR TEXTILE IMPROVEMENT.** Describes products and services designed to provide better fabrics. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, Ohio.

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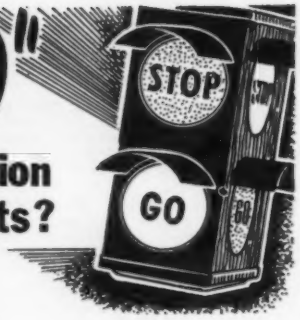

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BOOKLETS

T-540 PENFORD FINISHING GUMS. Complete data, including physical properties. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-541 REGENERATION OF ZEOLITE WATER SOFTENERS. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 DYEING SNYTHETIC FIBERS. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 INDUSTRIAL BRUSHES. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 WASTE HEAT RECOVERY. Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 WASHERS FOR SCOURING, BLEACHING, ACIDIFYING. Describes high capacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 NAPHTHOL FOR LIGHTFAST BROWNS. Booklet describes new, straight, non-substantive naphthol. Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 SOFTENER LUBRICANT, NAPPING AID. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-554 INSTRUMENT CATALOG. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

T-556 HUNTER DYEING EQUIPMENT. Describes fully with diagrams Hunter Model A Dye Becks, Hunter No/Lap Reels, Model S Dye Kettles. Open Width Dye Kettles. Sample Dye Kettles. James Hunter Machine Co., North Adams, Mass.

T-557 HIGH ACTIVITY CATALYST. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 CATIONIC DYE LEVELER. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-561 PUMP POURABLE PASTES. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 POLYETHYLENE FINISHING AGENT. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

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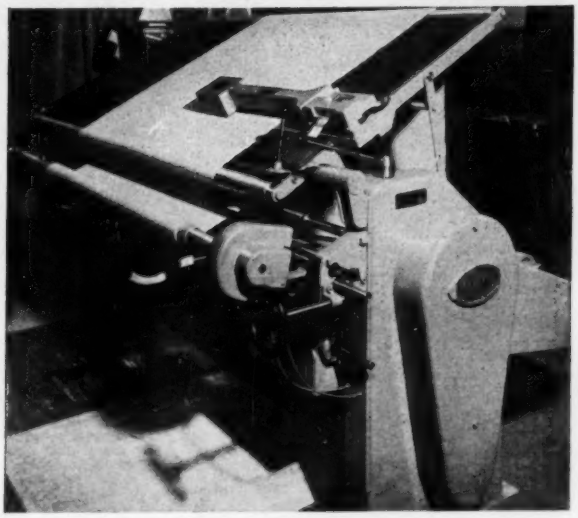

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T-564 HYDROGEN PEROXIDE BLEACHING. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 ETHYLEX GUMS. Brochure describes properties of hydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-572 DYEING MACHINERY FOR EVERY PURPOSE. Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-576 YARN PREPARATION. Describes products for yarn preparation, printing, finishing. Polymer Industries, Springdale, Conn.

T-577 STAINLESS DRY CANS. Information on stainless steel, 75 psi, reverse dished, head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

T-579 AUTOMATIC GUIDING EQUIPMENT. Catalog shows various types of automatic guiding equipment for accurate cloth guiding. Fife Mfg. Co., Inc., P. O. Box 9815, Oklahoma City, Okla.

T-580 AIR SLASHER DRYER. Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-581 BUTT-TACKING SEWING MACHINE. Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

fibers and yarns

T-601 FORTISAN-36, NEW TEXTILE FIBER. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 CAPROLAN NYLON HEAVY YARNS. Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

T-604 THE CHEMSTRAND NYLON STORY. Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 COLOR-FAST FIBERS. Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to color fastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-608 TASLAN TEXTURED YARNS. Technical information on dyeing and finishing of new fabrics made with Taslan. E. I. du Pont de Nemours & Co., Wilmington 98, Delaware.

T-609 PROCESSING NYLON STAPLE. Data sheet describes method of processing Du Pont 42 Nylon Staple in blends with cotton. Covers complete operation through sizing. Bulletin N-93. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

laboratory

T-701 TESTING INSTRUMENTS. Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

T-703 SHADOGRAPH WEIGHING DEVICES. Pictures and information on various types of scales. Exact Weight Scale Co., Columbus 8, Ohio.

T-705 STROBOTAC. Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., West Concord, Mass.

T-706 YARN COUNT SCALE. Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn number. Exact Weight Scale Co., Columbus 8, Ohio.

services for management

T-801 FACTORING SERVICE. Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

T-805 PROFIT THROUGH FACTORING. Brochure gives facts on the use of factoring as a modern plan for developing sound business growth and added profits. Walter E. Heller & Co., Dept. TI-2, 105 W. Adams St., Chicago 99, Ill.

T-807 GROUP INSURANCE. Information on how textile group insurance can insure the happiness of your employees and make for a better running mill. Provident Life and Accident Insurance Co., Group Dept., Chattanooga, Tenn.

T-808 FACTORING. Complete details on services offered as mill factors. L. F. Dommerich, 271 Madison Ave., New York, N. Y.

T-810 THE WONALANCET WAY is the title of an editorial booklet published five times a year dealing with current cotton problems. Write Wonalancet Company, 128 Burke St., Nashua, N. H.

T-812 BEECHCRAFTS FOR 1961. Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time and money. Write Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-819 ORGANIZED LUBRICATION PAYS. Planning book entitled "Management Practices that Control Costs via Organized Lubrication" shows how to effect savings in five areas of plant operation. Available from Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

plant operation

T-902 BELT LACING EQUIPMENT. Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

T-903 "MOTOR SELECTOR." How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

T-904 GEARMOTORS, MOTORGEARS, AND FLUID DRIVES. Catalog supplies complete information on double, triple, and quadruple reduction gearmotors and motorgears. Electrofluid and fluid drives are also explained. Link-Belt Company, Dept. PR, Prudential Plaza, Chicago 1, Illinois.

T-907 WRAP UP LINT PROBLEMS. Automatic lint filter removes lint from air, winds it into disposable roll. Bulletin 234, American Air Fiter Co., 215 Central Ave., Louisville 8, Ky.

T-908 TEXTILE MOTORS. Bulletin describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

T-909 COMPRESSORS. WB two-stage water-cooled. Space-saving units require modest foundation up to 125 psi and 1150 cfm displacement. Bulletin WB-10. Gardner-Denver Company, Quincy, Illinois.

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BOOKLETS

T-910 MODERN LUBRICATION METHODS. A report to management tells how modern lubrication methods can help save thousands of dollars in three major economic areas of textile plant management. Describes twelve operating advantages of automatic lubrication systems. Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.

T-912 STORY OF NYLON BRISTLE. Tells of discovery and production, with special attention to "Tynex," a form of nylon ideal for use in brushes. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-913 "ONE-SHOT" LUBRICATORS. Bulletin describes wide field of application for one-shot lubricators on machines requiring closely controlled but infrequent oil feed. Bijur Lubricating Corporation, Rochelle Park, N. J.

T-914 INDUSTRIAL GREASES. Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

T-917 BLOWERS AND EXHAUSTERS. Full description, including detailed drawings. Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.

T-918 PAINT STRIPPING BOOKLET. Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

T-921 CATALOG OF NEEDLE BEARINGS. Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

T-924 BALL BEARINGS FOR TEXTILE MACHINERY. Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

T-925 LUBRICATION OF BEARINGS. Helpful list of do's and don't to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

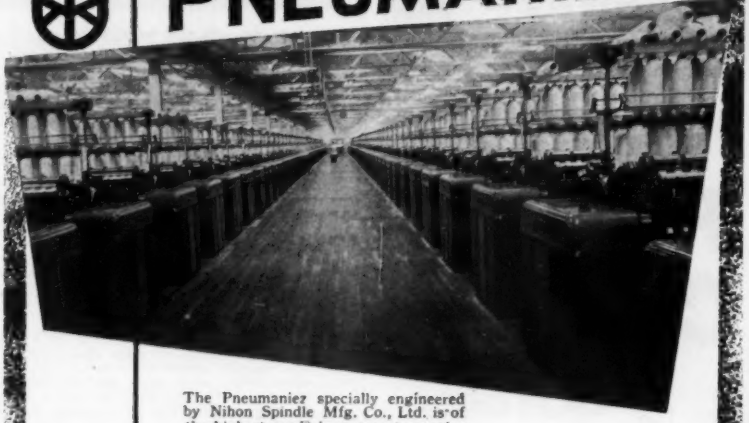
T-931 NEW V-BELT DRIVES. Bulletin contains information on selection and operation of V-belt drives. Covers all types of V-belt drives. Dodge Mfg. Corp., Mishawaka, Ind.

T-932 SMOOTH ACCELERATION, DECELERATION. Describes eddy-current equipment for smooth, stepless acceleration and deceleration. Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wis.

T-937 V-BELTS. Tells how raw materials and finished belts are tested and inspected. Quality control and experimental production covered. Booklet 5-51107, Dept. 794, Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-938 EMERGENCY CHEMICAL CLEANING—Booklet tells how rust, scale and other deposits may be removed from heat exchange equipment, regardless of intricacy. Anderson Chemical Co., Inc., Box 1424, Macon, Georgia.

PNEUMANIEZ



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BOOKLETS

T-939 BOILER FEEDWATER TREATMENT. Bulletin describes BRAXON & FLAKO internal automatic boiler feedwater treatment and services of trained service engineers in eliminating the problems of scales, sludge, corrosion, etc. Anderson Chemical Co., Inc., P. O. Box 1424, Macon, Ga.

T-940 VARI-SPEED MOTOR PULLEY. Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-941 BALING PRESSES. Describes complete line of motor-driven and hydraulic baling presses. Logemann Brothers Co., 3150 West Burleigh St., Milwaukee, Wis.

materials handling

T-1005 TRAMRAIL ENGINEERING AND APPLICATION. Data on how Tramrail equipment can cut handling costs. Cleveland Tramrail Div., Cleveland Crane and Engineering Co., 1036 East 289th St., Wickliffe, Ohio.

T-1007 MATERIALS HANDLING FOR TEXTILES. Shows how fibre trucks can increase efficiency, protect products. National Vulcanized Fibre Co., Wilmington 99, Del.

T-1013 TRUCKS DOFF, STORE, BECOME SPOOLER TRAY. Brochure tells how mobile boxes are being used as doff boxes, storage boxes, and spooler trays on Barber-Colman spooler. Fisher Mfg. Co., Hartwell, Ga.

T-1014 CARPET CORES, STORAGE TUBES. Literature on simplified storage and better cores for rugs. Sonoco Products Co., Hartsville, S. C.

T-1015 OVERHEAD CONVEYOR. Catalog features "Cable-Way" Overhead Conveyor which has low-cost, ease of installation, quiet operation and long life. Conveyor Division, The American MonoRail Co., Fourth and Franklin Sts., Tipp City, Ohio.

T-1020 AUTOMATIC WRAPPING. Tells how automatic packaging increases the sales appeal of textile products. Saves labor and materials and adds tamper-proof product protection. Write Hayssen Mfg. Co., Sheboygan, Wis.

T-1021 TUBES, BOBBINS, PIRNS. Information on world renowned yarn carriers, reliable as to stability, dimensions, weight. Emil Adolff (U. S. A. agents: Textube Corp., 695 Summer St., Stamford, Conn.)

T-1022 STRONG CORES. Data on lightweight, quality tubes and cores for textiles. Star Paper Tube, Inc., Rock Hill, S. C.

T-1023 MATERIALS HANDLING. Describes lightweight, durable, smooth products. Spaulding Fibre Co., Inc., Dover, New Hampshire.

T-1024 CONDITIONING TRUCK. Details on all-aluminum, non-rusting conditioning truck. Excel, Inc., Lincolnton, N. C.

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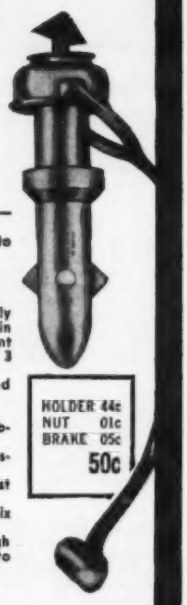

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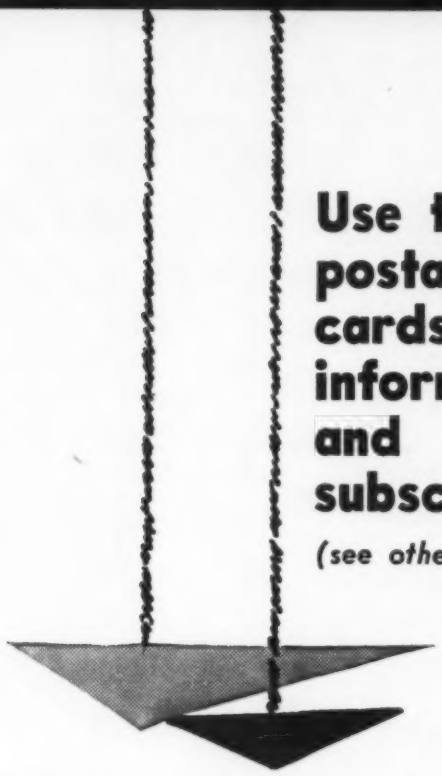

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MILL NOTES

(from page 53)

lost time accident. * * * All general and top level managerial functions of the textile division will be consolidated in a new headquarters building in Charlotte, N. C., to be completed in March. The research department, now located in Paw Creek, N. C., will be housed in the new building.

Jonathan Logan, Inc., women's dress manufacturer, with headquarters in North Bergen, N. J., has established a complete yarn manufacturing and dyeing plant at Spartanburg, S. C., in a 60,000-sq-ft building adjacent to its 100,000-sq-ft Butte Knitting Mills operation. It is expected that about 50 per cent of the yarns currently required by the firm for its knitted dress output will be produced in the new plant. Desire for tighter control over the quality of yarns used for its knitted dresses and for elimination of the need for space required to store bulk yarns in quantity was given as the reason for initiation of the new operation. The decision to include a dyeing facility was said to have been dictated by the need to reduce the time involved in sending finished yarns out to be dyed and the desire for greater standardization in color of the yarns used. * * * Addition of five full-fashioned dresses to those already in operation at the Spartanburg plant was announced. Capable of automatically manufacturing 16 different dress styles simultaneously, the machines will be placed in operation in time to produce a complete line of full-fashioned dresses for the fall '61 season.

During the fiscal year which ended Sept. 30, **Erwin Mills, Inc.,** spent $2,761,000 for improvements and expansion of its manufacturing facilities. An expansion and modernization program has been scheduled for the finishing plant and warehousing at the Durham, N. C., plant.

Slater Mills, Inc., has moved machinery from the Paterson, N. J., plant and consolidated all operations in Kings Mountain, N. C.

Pictured above is a replica of the Christmas cards which R. M. Vance, president of **Clinton-Lydia Cotton Mills** sent to customers throughout the nation. The card carried season's greetings from all the 544 families of the mills (approximately 1600 employees).

SUPPLIER NOTES

Tanners Dye & Chemical Corp. has been appointed to represent **Putnam Chemical Corp.** in the New England area.

Max W. Schrader has been named assistant manager of **The Textile Shops, Inc.**

The Mead Corp. has announced plans to construct a 218,000 sq ft addition to the Atlanta, Ga., plant.

T. E. Mack Co., Inc., with headquarters in Union, S. C., has been appointed representatives in the Carolinas for Lydon Brothers, Albion Industries, Magline, Inc., Clark Door Co., Lewis Shepard Co., and William Bal Corp.

SKF Industries, Inc., has announced the acquisition of **Nice Ball Bearing Co.,** a division of Channing Corp.

Ernest L. Frankl Associates, Inc., has been appointed exclusive sales agent in the United States for **Ateliers Houget,** Verviers, Belgium.

Wildman Jacquard Co. has announced that a stock of repair parts for their Jacquard knitting machines will be carried at the High Point, N. C., office.

Allen M. Mulder has joined **Ciba Company, Inc.,** as a sales representative in the midwestern district office. Mr. Mulder will sell dyes and chemical specialties in the Michigan area.

A large addition to the fabricating plant of **Gaston County Dyeing Machine Co.** is under construction. When completed in early 1961, the new facilities will be used for fabrication of products for the chemical industry.

O-M, Ltd., is the new name of the recently merged O-M Spinning Machine, Ltd., and Osaka Machine Mfg. Co., Ltd.

Harry G. Kennedy has been named

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SUPPLIER NOTES

(from page 177)

director of sales for **The Lynrus Finishing Co., Inc.**

Norman Price has been appointed to the sales staff of **Althouse Chemical Co.** and will cover the Tennessee area.

The first unit of the new plant of **Burkhart-Schier,** being built in Chattanooga, Tenn., is under construction.

Thomas E. Clark, Jr., has been placed in charge of sales for **Holyoke Machine Co.** in the territory formerly serviced by the late George O. Trudeau.

H. Alison Webb has been named director of marketing for **General Dyestuff Co.,** a division of General Aniline & Film Corp. * * * Dr. C. C. Schulze has been appointed general manager of **Antara Chemicals Division,** and James M. Cloney has been named director of marketing.

A new firm, **U. S. Bobbin Co., Inc.,** has begun operations in Pelham, S. C. Wood-turned speciality items for the textile trade will be manufactured. Jack Locke is president and M. L. Johnston is vice-president and secretary.

Everett Hilliard, Jr., has joined **The Chemstrand Corp.** as supervisor of market research for fiber and yarns.

Allan F. Ballantyne has been named director of **Crompton & Knowles International** and manager of the office in Zurich, Switzerland. William G. Hjerpe has been appointed manager of **Crompton & Knowles of Canada, Ltd.,** and secretary of both companies, subsidiaries of Crompton & Knowles Corp.

Ground was broken recently for the first phase of what will ultimately be a 360,000 sq ft building which will consolidate operations of the **Roberts Co.** The first unit will consist of 85,636 sq ft of manufacturing space and 20,000 sq ft of office space.

The **Speizman Knitting Machine Corp.,** a member of the Morris Speizman Company, has moved into larger quarters in Suite 4923 of the Empire State Bldg., New York City.

Production is under way at the **U. S. Bobbin Co., Inc.,** Greenville, S. C. The new plant is located in the old Batesville mill. All machinery has been installed. Jack Locke is president and M. L. Johnson is vice-president and secretary.

The **Square D Company** has purchased from Gorham Mfg. Co. a 98,000 sq ft plant located on 35 acres on the outskirts of Asheville, N. C. The plant will serve as headquarters for the commercial control division.

Gunter & Cooke, Inc., has appointed Oliver D. Landis, Inc., as exclusive sales agent for Virginia, North Carolina, and part of South Carolina. Seabrook Transmission Co. and Talladega Machinery and Foundry have been appointed agents for South Carolina, Georgia, Alabama, Tennessee, and Mississippi.

Donald Campbell has been appointed manager of the Providence, R. I., district sales office of **American Enka Corp.,** succeeding James C. Scott, who has retired. Dr. John L. Bitter, marketing vice-president, and Dr. Martin Wadewitz, technical vice-president, have retired.

National Vulcanized Fibre Co. has announced acquisition of **Fisher Manufacturing Co., Inc.,** Hartwell, Ga. The consolidation will provide a broadened line to be offered the customers of each company and afford outlets beyond the textile field for Fisher products, as well as a southern plant location for National.

John A. Reagan, Jr., has been named public relations manager for **Sonoco Products Co.** Mr. Reagan will continue as advertising manager.

The second step of the combined modernization and decentralization program on which **Fletcher Industries, Inc.,** embarked two years ago, has been completed with the renovation of the plant in Statesville, N. C.

Mr. Robbins
Cotton McCauley

Mr. Taylor
Eastman Chem.

Mr. Cannon
Eastman Chem.

Mr. Carman
Louis Batson

Mr. Wood
Dixon Corp.

Mr. Riling
Foster Machine

Mr. Benison
Scott & Williams

Mr. Register
Davis & Furber

Mr. Brooks
Southern States

Mr. Bartle
Interchemical

Mr. Whitsel
Union Special

Mr. Moulton
Union Special

Robert H. Cannon, Jr., has been named to the newly created post of assistant sales manager in charge of field sales for the chemicals division of **Eastman Chemical Products, Inc.,** subsidiary of Eastman Kodak Co. Mr. Cannon will be located in Kingsport, Tenn. George J. Taylor has been appointed eastern regional sales manager with headquarters in Philadelphia. W. C. Cooke has become district sales manager of the Philadelphia office. R. Clay Dubberly has been named district sales manager of the Cleveland office and Davis S. Oaks, a new sales representative, has been assigned to that office.

William E. Bartle, formerly production manager of the organic synthesis department of the color & chemicals division of **Interchemical Corp.,** has been appointed technical representative in the southern sales district with headquarters in Rock Hill, S. C.

Hugh P. Riling has been appointed a sales engineer by **Foster Machine Co.** Mr. Riling will be headquartered in Westfield, Mass.

Whitin Machine Works has announced receipt of an order from Avondale Mills for 95 new spinning frames to be installed in the Catherine plant.

Hercules Powder Co. has announced the acquisition of the Covington, Va., facilities of **Industrial Rayon Corp.** The plant will be converted to the production of polypropylene fibers.

Southern States Equipment Corp. has announced the appointment of Lamont Brooks as salesman in certain portions of Georgia.

John Register has joined the staff of **Davis & Furber Machine Co.** as spinning technician. Headquartered at the Charlotte, N. C., office, Mr. Register will be available to mills in the southern area where improvement of yarn production is under consideration.

Travis S. Whitsel, vice-president and sales manager of domestic sales for **Union Special Machine Co.,** has retired. Mr. Whitsel will continue as a consultant. Marion O. Moulton has been named to succeed Mr. Whitsel as sales manager.

Edward D. Carman has been appointed general manager of **Louis P. Batson Co.** * * * The firm has been appointed southern sales agent for **Ernest L. Frankl Associates, Inc.**

Carroll Wood has been appointed a field service engineer for **Dixon Corp.** Mr. Wood will call on the trade in South Carolina. * * *

Whitman D. Ide has been appointed assistant vice-president and Victor J. Lombardi has been named assistant to the president of **Scott & Williams, Inc.** Wm. T. Benison has been appointed to the staff of the High Point, N. C., sales division.

Neal M. Draper has been appointed vice-president of National Aniline Division of **Allied Chemical Corp.** In his new position, Mr. Draper will be responsible for the sale of organic chemicals, dyestuffs, and pigments. Charles W. Carvin, Jr., has been appointed vice-president for fiber marketing.

Hubert Robbins has been named sales representative for **Cotton McCauley & Co., Inc.,** to cover the Alabama and Georgia territory.

Ralph G. Cox has been named eastern regional sales manager of fiber glass textile products for **Johns-Manville Co.** Mr. Cox will be headquartered in Atlanta, Ga.

Charles Schwarzler has been appointed vice-president of marketing for **The Foxboro Co.** H. O. Ehrisman has been named vice-president and U. S. general sales manager.

Upon completion of the 31,500 sq ft addition to the Instrument Division plant, **Durant Manufacturing Co.** will transfer all manufacturing, production control, engineering, and related activities from the Milwaukee plant to the Watertown, Wis., facility.

E. Michael McMahon, sales representative for **Becco Chemical Division** of Food Machinery and Chemical Corp., has been transferred to the northern New Jersey and eastern New York state area. Sam L. Cassedy has been appointed to succeed Mr. McMahon in the Philadelphia area.

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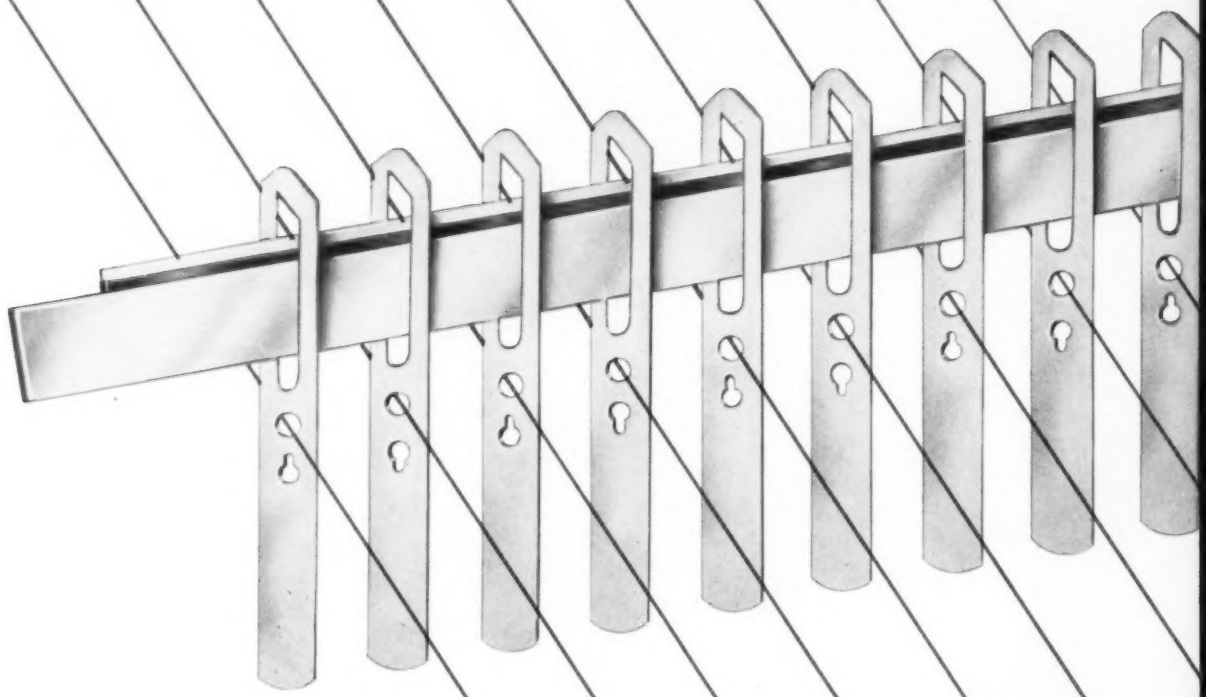

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